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Lead, Land, and Coal as sources of Landlord Income in Northumberland between 1700 and 1850.

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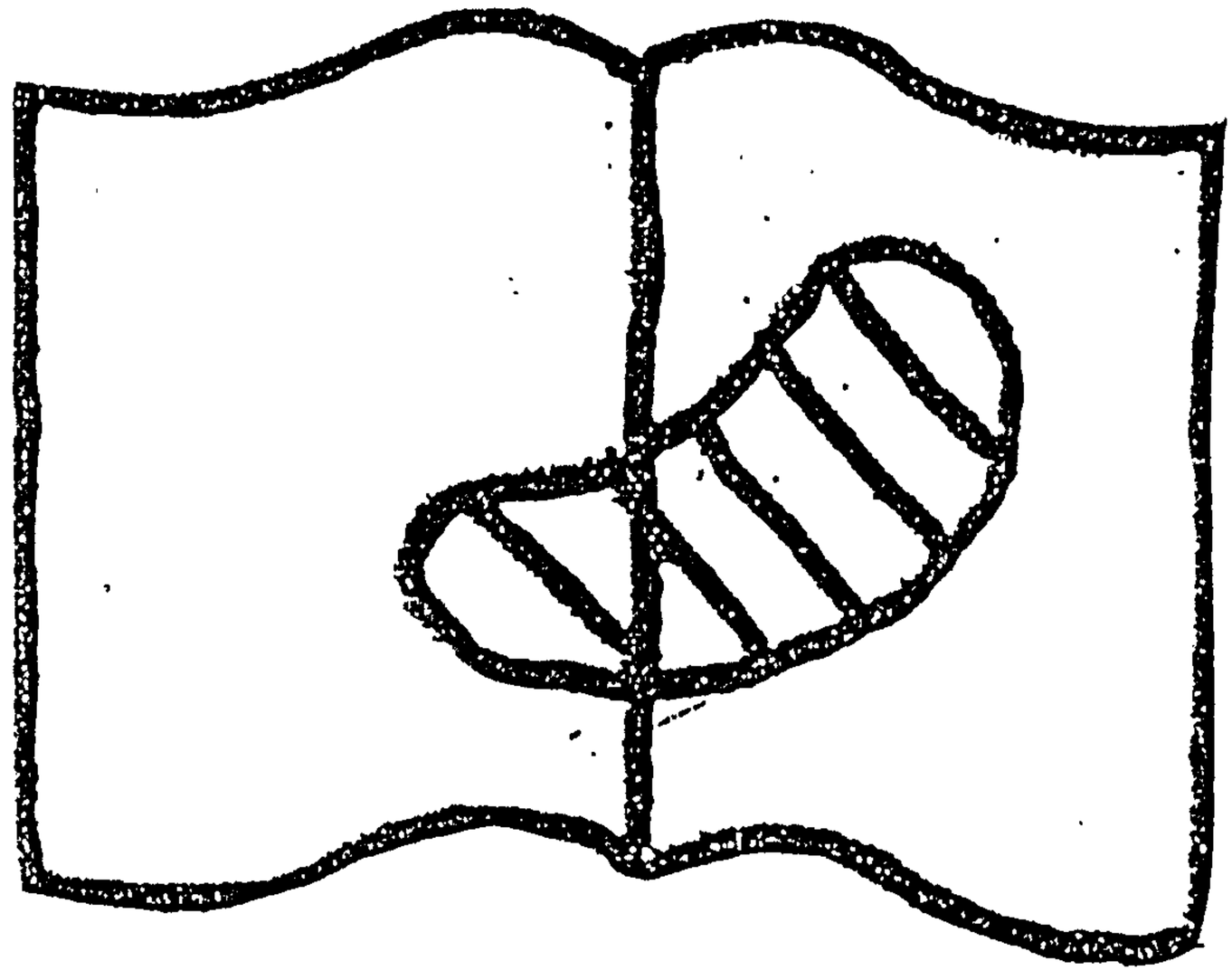

Table of Contents.

N.B. A separate volume contains a short bibliographical note, and the statistical appendices in which the ledger evidence is given in full with comments on some of the problems raised thereby.

Before each Section (and in Section 4 each part) a short synopsis is given of the salient points of the study.

INTRODUCTION

> 'What signifies it to raise your rents when tenants cannot pay them, when by doing of that you breake your tenants and spoyles your farms'. (1)

In view of the political importance and the economic position of the landlord in England during the 18th and 19th centuries it is perhaps surprising that his economic activities have till lately received little attention from 20th century economic historians. As a vehicle for politico-historical propaganda the history of the agricultural labourer offered more scope for those whose dogma already had damned the capitalist activities of the landlord. A lack of sympathy may account for a lack of interest but scarcely excuses it. In the last few years the work of such historians as Professors Habbakuk and Spring and Mr.F.M.L.Thompson have changed the position radically, but there is still no published work of analysis of the central problem of their income-rents. Coal interests may have been important for the Lambtons or the Londonderrys, but agricultural rents for the majority remained the principal source and no detailed information of changes in this between 1700 and 1850 has to my knowledge been published.

It may be that outside Northumberland and Durham there is not the evidence available on which a detailed analysis can be based, but this seems unlikely. It is certain that (as this study will show) the scope

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(1) Thos. Errington (the agent) to the dowager Countess of Derwentwater, May 13th, 1723. Proceedings of Society of Antiquaries of Newcastle-upon-Tyne, 3rd series, Vol.VII, p.71.

for variation in the rental patterns between localities only a few miles apart is enormous, and this may have acted as an effective deterrent to would-be analysts. Figures for isolated years or individual farms may well be wholly misleading as an indication of general conditions. Without precise dating such figures are valueless. In the recently published Agricultural History of Cheshire[1] Dr.Stella Davies gives the rents per acre of a number of farms but by failing to indicate the precise date at which they were being paid reduces the value of them. One figure for rent for the forty years 1780-1820 is of as much value on the Northumbrian evidence as would be one figure for the salary of a university professor for the years 1920 to 1960. Global figures for the changes in the rental of whole estates though interesting have only limited value beyond illustrating very general trends and providing important evidence for the financial affairs of the landlord concerned. It is only by going to the unit of the single tenant holding and examining changes farm by farm over a number of years that one can expect to arrive at any basis for comparing one estate with another and thence differentiating the several factors influencing changes.

As an explanation of the fundamental cause of rent, Adam Smith's theory may have been inferior to that of Ricardo, but as a pragmatic description of 18th century conditions it is worth noting.[2]

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(1) Chetham Society 1960 volume. 3rd series, Vol.X, Appendix XV, pp.220-222.

(2) Wealth of Nations, Book 1. Chapter XI; p.66 in M'Cullock's edition of 1850.

> 'Rent, considered as the price paid for the use of the land, is naturally the highest which the tenant can afford to pay in the actual circumstances of the land. In adjusting the terms of the lease, the landlord endeavours to leave him no greater share of the produce than what is sufficient to keep up the stock from which he furnishes the seed, pays the labour, and purchases and maintains the cattle and other instruments of husbandry, together with the ordinary profits of farming stock in the neighbourhood'.

The rent was a bargain struck between the landlord and his prospective tenant in which a number of factors were involved. Some of these were of a permanent nature - the geographical situation; others were capable of alteration-marketing facilities, drainage, methods of husbandry, housing and prices. In one sense the rent of every farm is particular to that farm and need not bear any relation to that of its neighbour, but in practice it appears that similarly situated farms bear similar rents which change in a similar manner.

Having once been fixed at an economic level the rent of any farm ought not to change without some cause which is, theoretically at least, discoverable. In practice, the incompleteness of the evidence makes the relative weighting of a number of potential factors a matter of opinion not fact. If rent is looked on as a portion of the net income of a given tract of land (the rent itself not having been included among the expenses) the factors liable to cause any change can be divided into three groups:-

1. Those affecting the size of the landlord's portion of the net income irrespective of any alteration in the total of such income.
2. Those in no way affecting the income which can be best described as amenity factors.
3. Those which in any way alter the net income while the landlord's portion remains constant.

It is often forgotten that the portion which the landlord may expect from the net income may well be variable both in time and place. The 'ordinary profits of farming stock' mentioned by Adam Smith might vary from neighbourhood to neighbourhood. The availability of suitable tenants may vary from year to year but also from one locality to another. The art of the agent lay in part in raising the landlord's portion at the expense of the tenant. In this the length of any lease and the stipulations it contained were important in that a landlord might well demand successfully a higher portion in return for the greater security of a long lease, or on the other hand accept a reduced portion in return for greater control over cropping etc. It is impossible to state this portion as an exact arithmetical ratio, but it would appear that in many cases in the first half of the 18th century some of the increases in rent were due to a change in this ratio.

> 'For the first 66 years of the 18th century the prices of corn and other provisions were so low that any considerable rise in rents was impossible, and in cases where some appearance of it might be found, it was assuredly caused by such accidental circumstances as attatched to the utter negligence of proceeding proprietors'.(1)

The reversal of this utter negligence entailed the landlord increasing his share, but as Thos.Errington pointed out in the letter quoted at the head of this chapter there was a limit beyond which it was unwise to go.

Lastly among this group of factors must be noted the effect of speculation concerning changes in the prices of agricultural products. An alteration in the portion might well be agreed to as an insurance for either party

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(1) Arthur Young, 'Enquiry into the progressive value of money in England', 1812, pp.100-101.

against changes in the value of the produce. For example, in the 1840s many tenants could demand a larger share as an insurance against what they considered the high probability of a fall in corn prices following the repeal of the corn laws.

The second group of factors are by their nature difficult to assess in money terms. But it is clear that the quality of the buildings, the number of cottages available for labourers, the accessibility of the smithy or mill and so forth could have a profound effect on the rent of a farm and might well be changed. In the case of new buildings it is sometimes possible to see the effect of their erection in money terms when the landlord charged 4% or 5% on his outlay, but with this exception it is not normal to be able to discover what importance they had. Because they cannot be given an actual money value, however, it does not follow that they were unimportant or that we can ignore them.

The last group includes a multitude of factors, some of a short-term nature, others of a longer term. Wages in general seem to have followed changes in the price of produce but there was also an important long-term factor present which progressively influenced them irrespective of agricultural prices. The demand for labour for non-agricultural pursuits in the North East appears to have outstripped natural population increase, particularly during the early 19th century. Higher wages were available in coal-mining and the result was that agricultural wages rose out of proportion to prices and therefore the net proceeds of a farm requiring the same labour force were reduced following greater expense.

Any bargaining over a rent, particularly if there is to be a lease for a number of years, must include a number of estimates of future trends and for this reason a change may either follow or precede the factors tending to produce it. It was in the expectation of the future as much as in the actuality of the past that the bargain was made. In addition to the obvious changes that occurred in prices others frequently overlooked must be noted, among them changes in land use, enclosure, non-agricultural income, and so forth.

The change from pastoral to arable during the Napoleonic war period is the most obvious case of changes in land use, but there were others. A switch from a simple three course rotation to a four, five or six might affect the rent. In 1811/12 Robert Anderson (Earl Grey's agent) calculated the difference in income and expenditure on a 240 acre farm worked on a four and a five course rotation. When it was fallow, wheat, clover, oats, the total income was calculated at £1,666, expenditure at £1,300 leaving a balance of £366 for rent, equal to 30/6 per acre. If, however, turnips were introduced in place of bare fallow and the clover left down for a second year, income was increased to £1,685, expenses reduced to £1,237, and the balance became £448, equivalent to 37/4d per acre.(1)

This theoretical calculation for an increase of over 20% can be supported by actual cases where a change in mode of cultivation can be seen to be among the most important factors producing a rent increase. Landlord investment in such things as drainage, by making possible new types of land use, even before the advent of the cheap tile drain, can

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(1) Grey Mss. Prior's Kitchen, Durham. Undated but among 1811/12 papers with a watermark of 1811. (For Grey Mss in general see below p. 38ff)

similarly be seen to have had a profound effect.

One of the most difficult problems is to know the extent of the effect of common enclosure on the farms to which allotments were added in lieu of previous grazing rights. In theory at least (and in some cases in practice) the rent of these farms prior to enclosure of rough moorland pasture included a sum for the grazing rights which should bear some relationship to the value of the later enclosure. Actually the changes following enclosure were so great that for rental purposes no continuity can be discovered. Further examination of the effect of enclosure will be left till particular areas are examined in detail.

A similar problem arouse when the size of a farm was radically changed by the amalgamation of a number of small units into larger ones. Where two farms were simply converted into one the problem is simple and part of any increase can be put down to the lower costs and improved management that the larger unit made possible. In other cases the addition or removal of only small pieces of land might so affect the economy of the farm that comparison of the rent before and after the change is unrealistic.

Non-agricultural factors could of course also be important. Many of the farms that will be examined in detail can be seen to have been relying to varying degrees on the income the tenants could make as lead carriers. When in 1835 the Beaumont family closed their lead mill at Dukesfield and the routes of lead carriage were altered, farms on many estates in that area ceased to be economic and disappeared as separate units, while rents decreased very sharply. Though in this case the relationship is clear, in others it is only possible to suspect some such

factor without being able to discover its exact nature. The inter-dependence of agriculture and industry in the Tyne valley meant that the prosperity and location of the coal mining centres had an immediate effect on the agricultural community for many miles round. The rural economy became geared to the production of oats and hay for sale as fodder for the horses used both above and below ground, and as a result dependent for its prosperity on an industry liable to fluctuations independent of agricultural depression or prosperity.

The building of a new road or railway can be seen again to have had an effect on rents. In some cases by opening up a new source of supply the old areas that had enjoyed geographical protection as sole suppliers were hard hit while the new area found a new prosperity. This, as much as the ease of moving cattle etc., had its effect on the rents of rural areas through which such roads or railways were built.

Above all remains the effect of changes in the price of agricultural produce. In the case of corn crops this cannot be considered entirely without reference to both short and long term alterations in the productivity per acre, and to some extent the same is true of animal husbandry. A fixed rent has to be paid from the produce of animals and crops liable to all manner of variations. How far during the early 19th century did changes in yields cancel out alterations in prices from year to year? The expectation of yields was based on an average of recent past experience which might be proved disastrously optimistic. So with prices, it would appear that in estimating future prices both landlord and prospective tenant based his calculations on present and immediate past conditions. Prices, like yields, were not something which applied

without alteration to all parts of the country, but varied from area to area. Smithfield and Newcastle cattle prices did not always agree. Ideally one would like to have the accounts of a number of tenants to see how the problem of the fixed outgoings and the variable income were solved, but so far extensive enquiries have failed to produce such evidence.

All these factors operated against a personal background of the individual relationship between the landlord and his tenant, and the policy as well as the efficiency of the landlord and his agent remain an overriding consideration. One landlord raised the rent of one of his farms while the others remained unchanged 'to make the tenant more neighbourly'; while another left an old tenant undisturbed without increasing the rent long after it had ceased to represent the true economic figure 'because he is an old man'.

Is it possible amid such variations to arrive at any conclusions? If one analyses rents in terms of single farms, is it possible to get beyond a welter of individual detail to a picture which without being banal does justice to the detail? Such a general picture has to be attempted even if it is hedged about with reservations. How far it is satisfactory depends to a large extent on the quantity of evidence supporting it; by enlarging the sample the chance of erroneous conclusions as a result of faulty sampling can be reduced.

The study is based on the records of six estates examined in detail covering in all rather more than 100,000 acres. Each farm has been given a separate card on which details of the length of lease, rent and name of tenants have been entered. The rent has been converted into a figure per acre to make comparison of one farm and another possible, and where

available details of cropping, valuations, forced sales and so forth added. The evidence from these six estates has been supplemented occasionally by others which did not allow so full a set of information. Over 1,000 farms have been dealt with in this way and for the vast majority of them a continuous set of rent figures have been found from the early decades of the 18th century till 1850. I have stopped at the latter date for a number of reasons, the chief among them being the unwillingness of some of the owners to allow research into more recent times. In any case, though arbitrary, it does form a convenient stopping place at the end of a long period of recurrent downward pressure on rents, which was to be reversed during the next two decades.

This statistical evidence has been supported wherever possible by correspondence, and printed material. Apart from the evidence given by various Northumbrian agriculturalists to parliamentary committees of enquiry during the early 19th century, there are two other works of particular importance. The first of these is the View of Agriculture in Northumberland by Bailey and Culley among the county reports to the Board of Agriculture, and the second is an article by John Grey of Dilston on the History of Northumbrian farming in the 1841/2 volume of the Royal Agricultural Society. In addition to these,studies of Thomas Bates and John Grey, though in many ways unsatisfactory, have been examined and used. A full list of sources is given at the end of the work and here it is only necessary to note one small manuscript source not already mentioned, the parish cropping returns for the diocese of Durham in 1801 preserved among the Home office papers at the Public Record Office.

The decision to exclude at this stage the Dukes' of Northumberland

estates from close examination was made reluctantly, but their very size (c.150,000 acres) and the policy of annual agreements would have made their inclusion virtually impossible within the limits of a thesis. A similar difficulty arose concerning the mineral incomes of landowners in Northumberland, where coal incomes in particular were highly important. In this case, rather than omit mineral wealth entirely, I have concentrated not on coal but on lead and only used evidence for coal incomes for comparative purposes. The various methods by which any landlord could exploit royalty rights together with their several difficulties can be seen as clearly from this industry as in the far more complex coal trade. In addition to this, two of the estates whose agricultural interests will be analysed in detail were also extensively engaged in the lead industry, and their records are such as to make possible a full examination of these activities.

The thesis is divided into five sections of unequal length, rather than a number of separate chapters. These deal with respectively, the estates and their records, the lead industry, Howick home farm, agricultural rents, and finally the conclusions to be drawn from the preceeding work.

The first of these sections, forming one chapter, gives a general (static) description of the extent, location etc. of the estates, together with some information on the personalities involved either as owners, agents or receivers. This is followed by an indication of the records for the particular estate, and any problems connected therewith.

The lead section is much longer and contains four chapters on the several aspects of the industry. The first of these deals with the relationship between the royalty owner or tythe owner and the concessionaries who leased rights from him, the second and third with the

organization and costs of the mining and processing side of the industry as worked by a major owner/concessionary. The last chapter in this section is concerned with the problems of marketing the processed lead and the income derived therefrom by those who were engaged in all the sections of the industry.

The third section is once more only one chapter dealing with the affairs of Howick Farm, the home farm of the Earl Grey from 1802 to 1833. This is used as a case study with reservations for the problems facing the tenant farmer during that period, in which the extraordinary wealth of information available is used to examine certain commonly held views on agrarian prosperity and depression at that time.

The fourth section is by far the largest part of the thesis and is itself divided into three parts. These correspond to the three areas of Northumberland for which a detailed examination of the changes in rents 1700-1850 has been attempted. The first of these is concerned with Northumberland north of Alnwick, an area stretching from the Cheviot in the west to the sea in the east, and from the Scottish border in the north to the northern edge of the south-east Northumbrian plain. The other two areas both lie in the Tyne valley and the higher ground a few miles either side of it, the first that part to the east of Hexham but west of the coal mining area near Newcastle, and the second the two parts of the Tyne valley lying to the west of Hexham. This last mentioned area is used as a check by which the conclusions arrived at in the previous areas can be either confirmed or denied.

The last section is again only one chapter in which the conclusions of the rent and lead sections are summarised and the income derived therefrom compared one with another and with those from the coal trade.

These last comparisons are, however, limited in both scope and time to two or three estates in the early years of the 19th century.

Separate from the text there is also a series of statistical appendices, in which much of the evidence from the ledgers etc., is given. Since it is upon this evidence that the conclusions are largely drawn it had to be included extensively, but for that very reason it had to be kept separate from the main body of the text.

Section 1.

THE ESTATES AND THEIR RECORDS.

Synopsis:-

A description of the size, location and process of acquisition of the estates examined is given with a short sketch of the personalities involved either as agents or owners. This is followed by an indication of the manuscript material that has survived for each of them noting in particular items of special importance.

The estates are treated in the following order:-

In addition to these six estates mention is then made of the others which have been examined in less detail. These include the Eslington Estate of the Lords Ravensworth, the Dean and Chapter and Bishops' of Durham's estates and those of the Russells of Wallsend and Brancepeth.

- Market Towns
- \+ Family Seats
- ▲ Grey Estates
- □ Greenwich Hosp!
- ○ Crewe Trustees
- ◆ Blackett of Matfen
- ● Blackett/Beaumont
- ▼ Allgood
- ◩ Liddell (Eslington)

BERWICK
R. TWEED
R TILL
WOOLER
R. BREAMISH
R. ALN
Howick
Eslington
ALNWICK
ROTHBURY
R. COQUET
R. REDE
R. NORTH TYNE
BELLINGHAM
R. WANSBECK
MORPETH
R. BLYTH
Nunwick
Matfen
HALTWHISTLE
CORBRIDGE
Bywell
HEXHAM
R. TYNE
NEWCASTLE
R. SOUTH TYNE

THE ESTATES AND THEIR RECORDS

The six estates which will be examined in detail fall naturally into two groups, the institutional and the private. Greenwich Hospital and the Crewe Trust are the two institutions, and the private estates are those owned by the Allgoods of Nunwick, the Blacketts of Matfen, the Blacketts (later Beaumonts) of Wallington, Hexham, Bretton Park near Wakefield, and Bywell, and the Earls Grey of Howick. The estates and their records etc. will be examined in that order, starting with Greenwich Hospital.

In 1735 George II was prevailed upon to bequeath to the use of Greenwich Hospital the lands which had originally been owned by the Radcliffe family, Earls of Derwentwater. This family, despite its fervent catholicism and consequent persecution, had built up its estates largely during the 17th century, and in 1710 the young James, 3rd., Earl, succeeded to them despite his having been brought up at the court of James II in France, and his being related to the Stuart house. In 1715 both the young earl and his uncle Charles Radcliffe joined the rebellion, and in time both were attainted. Despite strong appeals for clemency the young Earl was executed and his lands came under the surveillance of the Commissioners for forfeited estates. His uncle, however, escaped to France and from this arose a difficult legal problem. The heir to the attainted earl was his only son whose health however was never robust, and there were soon those who were prepared to purchase from the Commissioners the reversion of the estates in the event of the young boy's death. His death in 1731 exposed the scandal by which the estates had been sold for less than six months actual value. A parliamentary enquiry followed which resulted in the sale being declared void and one M.P.

being expelled from the House for his part in the affair. To whom in this situation did the lands belong? In the absence of an heir they clearly reverted to the crown, but was there no heir? The uncle who had escaped had in 1715 been a bachelor, but later he married the Countess of Newburgh and by her had a son. Could this boy be the heir, born after his father had been attainted and only escaped execution by flight long before he was born? An act was passed which without mentioning this particular case only applied to it expressly forbidding an inheritance to be passed on in this manner and the lands reverted to the crown, which in turn granted them to Greenwich Hospital. In 1745 Charles Radcliffe once more took part in the Rebellion, but this time was less fortunate and was executed under the terms of the previous attainter. The uneasiness of the public conscience, however, continued and the claim of the Newburgh family was to some extent recognized by the payment to them as late as 1840 of an annuity of £1,000 p.a.

With this salve and occasional fears that their claim would be more successful, Greenwich Hospital enjoyed the revenue from the estates until the last thirty years of the 19th century when a large part of the estates were sold. Although the family had taken its title from the Lake District, the bulk of its lands lay in the Tyne valley with a number of outlying estates scattered throughout Northumberland and parts of Cumberland. A computed survey of January 1735/6 gave the total size of the estate as 22,690 acres of 'in ground' with common rights as lords of various manors over a further 77,450 acres. In 1805 the agricultural land in Northumberland had, as a result of enclosures, encroachments and a few small purchases risen to nearly 31,000 acres divided into 130

holdings, and in addition to this there were still a number of commons over which rights existed unenclosed as well as over 4,000 acres of woodlands reserved. Of the agricultural land at that time, about 20,000 acres lay in the Tyne valley areas, 4,000 acres lay further north in the Wansbeck valley, and 6,000 in north Northumberland.

In addition to the purely agricultural interests there were also mineral rights both over coal and lead. The coal royalties lay in two distinct areas, the first near Throckley a few miles west of Newcastle, the second at Scremerston just south of Berwick, but compared with their lead interests these never became a major source of income. Alston Moor was said in 1805 to include over 20,000 acres of commons and wastes as well as a number of leasehold lands over the whole of which the Hospital had mineral rights. Although administratively part of Cumberland this area was economically orientated towards Newcastle rather than Carlisle and it was in this area that the lead mines lay.

Ultimate control over the estate was vested in the Commissioners for Greenwich Hospital until 1832/3 when it passed to the Lords of the Admiralty, but the detailed management of the estate was left in the hands of two Receivers resident in the north. The fear of corruption and the readiness of others in the north to use the affairs of the Hospital for political purposes led to a number of parliamentary interferences. On some occasions questions were asked in the House; in 1806 the 14th Report of the Commission of Naval Enquiry dealt exclusively with the affairs of the Hospital, and in 1774 and 1805 detailed 'Visitations' were made by two of the Commissioners from London.

The first two receivers appointed in 1735 were in one sense

political in that they were at that time agents for a prominent supporter of Robert Walpole, Sir Henry Liddell (later Lord Ravensworth). They realized this as can be seen from this letter of February 14th 1742. 'We are much concerned for the great change that is likely in the ministry, but hope that it will not go further than the great ones. People here on the other hand talk differently.'(1) Local opinion was again roused in 1832 as this letter of December 31st from the agent of the Beaumont family shows:-

> 'The whole of the Greenwich Hospital agents have been dismissed. In future there is to be but one Receiver, who is to reside at Hexham and all the subordinate agents reduced in number. This has caused a great sensation here and it is attributed to the result of the election by the Tories. I believe it is solely attributable to the mismanagement and lavish expenditure of the late agents, which has been notorious to everyone.'

Parliamentary intervention was not confined within these limits, but dealt with the whole question of the procedure for granting leases. By Act (1735) it was directed that public advertisements should be made asking for tenders to be delivered to the Board of Directors and opened only in their presence. No lease could be granted for more than twenty-one years, but if let only for one year at a time no such advertisement and tender was needed. Following from this it became the practice for the board to accept the highest bid unless the Receivers could produce overwhelming evidence against it, and as a result they had little control over the selection of the tenantry with whom they had to deal.

This apart, the Receivers soon developed effective autonomy in most matters, as one would expect from the absentee and bureaucratic nature of the ultimate authorities. Decisions had to be referred to Greenwich for

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(1) P.R.O. Adm.66/106. p.105.

approval, but this became little more than a formality as the Receivers were the only source of the informative reasons given for such proposals. The Receivers between 1735 and 1850 were as follows:- (The 'senior' Receiver's name is given first).

1735-1759	Nicholas Walton (sen.) and Henry Boag.
1759-1763	Henry Boag and Nicholas Walton (jun.).
1763-1764	Nicholas Walton(jun.) and George Boag.
1764-1777	Nicholas Walton and John Smeaton.
1777-1801	Nicholas Walton and Sir John Turner.
1801-1810	Nicholas Walton and Mr.Forster.
1810-1821	Forster and Wailes.
1821-1832	Wailes and Brandling.
1833	John Grey.

Of these, three stand out, Nicholas Walton (jun.), John Smeaton and John Grey, and it is fitting that some note should be made of each of them. Having replaced his father, one of the original Receivers, in 1759 Walton remained the guiding force in the Estate's affairs for over fifty years till his death in 1810. In a period not noted for the incorruptable quality of its public servants he stands out for his probity and from his letters the quality of the man shines clearly forth. That his worth was recognized by the Directors of the Hospital can be seen in this quotation from the report of their Visitation in 1805.

> 'It would be the height of injustice not to reserve a place apart for the purposes of expressing, in the strongest manner our sense of the conduct of that old and faithful servant of the Hospital, Mr.Nicholas Walton. He is now arrived at an advanced age, but his faculties are still clear, and he is alive and attentive to all matters of business..... it seems impossible for us to speak too highly of his extensive and useful knowledge, ardent but well-tempered zeal, indefatigable industry, and inflexible integrity: and of the importance and advantages of his exertions in the execution of the trust committed to his charge.'

One can as an historian do no more than agree with this testimony on the evidence available.

John Smeaton is of course a far more famous character than his fellow Receiver, and his engineer's hand can be seen in the erection of a number of improved patterns of water corn mills, the Langley Lead Mill and the most ambitious of all the Nent Force Level. Even in the more mundane matters of designing farm buildings he seems to have taken a keen interest and there still survive a number of his buildings in every day use. His impact on the management of the estates cannot be exactly determined since most of the letters are sent over the joint signatures of Walton and Smeaton. It would appear that on agricultural matters he acknowledged Walton's superior experience in the same way as the latter admitted Smeaton's on matters of civil engineering.

John Grey of Dilston was brought up on one of the farms of the Grey estate at Millfield, and after his father's death when he was still young he became a protégé of the most eminent of his neighbours, John and Mathew Culley. In 1833 he became sole agent for the Greenwich estates and moved from Millfield to Dilston. A highly religious man, he was keenly interested in education, the emancipation of slavery, and a large number of similar projects. A founder member of the Royal Agricultural Society he also wrote a number of articles for their Journal on various subjects. The only life of him was written soon after his death by his daughter, Mrs.Butler, and is in many ways unsatisfactory, particularly on his impact on agriculture. One of the many duties he had to perform as agent was to keep a Journal of his activities which was sent at weekly intervals to Greenwich, and from this it is possible to gain a much clearer picture of both the man and his impact.(1)

(1) I intend after the completion of this work to attempt a work on the lives and activities of the North-Eastern agriculturalists including the Culleys, Collings, Thomas Bates, and John Grey.

From the personalities one can turn to the records. For the pre-Greenwich period there is some evidence among the Forfeited Estate Commission papers in the P.R.O. but this is not very full. (PR.O. F.E.C. 1 D.52). A few letters have survived among the Society of Antiquaries Mss. in Newcastle which were printed in the Proceedings of that Society 3rd Series, Volumes VI to VIII, but apart from these there is not very much. After 1735 the evidence is embarrassingly full and is preserved at the P.R.O. among the Admiralty collections. The principal sources used in this study are a complete set of ledgers (Adm 70), various collections of letters from the Receivers (Adm.66), rentals, valuations, and so forth (Adm.79), and the journal of John Grey (Adm.80/17 ff.). Amid this mass of information there is however one regret. We know from a number of references in letters that cropping books for every field on the estate were kept from the 1770s onward, but these seem to have been lost. At the time of the sale of the Dilston Estate in 1874 a large quantity of 'old papers' were burnt and it may well be that among them were the cropping books as well as other items. It is, however, possible that they passed at that time into private hands and may still exist, but I have not been able to get any clue as to their fate.

The Crewe Trust was set up under the terms of the will of Nathaniel Lord Crewe, Bishop of Durham, by which the revenues from certain estates were devoted to a number of educational and charitable purposes. The trustees were members of the Chapter of Durham, together with the Rector of Lincoln College, Oxford, and the Archdeacon of Northumberland. In fact the estate was (and is) run by the same agent as looked after the

Dean and Chapter's affairs. There is some doubt as to the exact process by which Lord Crewe came into possession of the estates which had formerly belonged to his wife's family, the Forsters. The Jacobite 'General' of 1715 was his wife's uncle and at that time seems to have been seised of the estates which were later to form the Trust's.

These estates consisted of two portions, the one about 9,400 acres near Blanchland in County Durham, and the other 3,600 acres near Bamburgh in Northumberland. In this study I have confined detailed examination to the Bamburgh portion, and have only used the Blanchland estate occasionally to compare it with other estates lying adjacent but in Northumberland. The records for both estates are much less full than those for Greenwich and consist in the main of ledgers from 1775 onwards. These are supplemented by a series of valuations during the period 1794-1823, but there is an almost entire absence of correspondence. (1) Since these records have not been catalogued it is not possible to give any footnote references to any material used, so I have done no more than indicate the nature and date of the document used.

The Allgood estates consist in the main of a large block of land on the west side of the North Tyne valley in the neighbourhood of Simonburn. In 1750 they were reckoned at just over 7,000 acres and eighty years later as a result not of additional purchases but of enclosures this had risen to nearly 13,000 acres. The remainder of the estate that is dealt with in detail in this study was about 3,300 acres in northern Northumberland (Brandon and Reavely) and one or two small holdings on the Cumberland/ Northumberland border south of Haltwhistle. In the early part of the 18th

(1) I must thank Admiral Laybourne and Mr.Carr for allowing me to hunt for material in the cupboards in their offices and to take it away with me to examine and transcribe in detail at my leisure.

century there were in addition two estates, the first (Colt Park) lying a little north of Wallington which was sold in the 1770s, and the other a leasehold estate from the Duke of Somerset (later the 1st Duke of Northumberland) at Seghill on the south eastern plain.

The Allgood family had been prominent in the Hexham area as servants of the Fenwick family (Lords of the Regality) for many generations before they became large scale landowners. By the last decade of the 17th century one part of the family had settled at Brandon White House while another branch were represented in the Hexham area by the Rector of Simonburn. In 1695/6 the Rector in co-operation with his brother (? cousin), a London attorney, purchased from Sir Charles Heron of Chipchase the Simonburn and Shitlington Estates which were to be the basis of the Allgood estates thereafter. In 1725 the Chipchase estate itself was purchased from Sir Charles' heir by the London attorney. Of the feud between the brothers and the subsequent legal disputes over the inheritance no notice need be taken, and it is sufficient to know that by 1740 Lancelot Allgood (later Sir Lancelot), the heir of the White House branch, having married the daughter of the Rector of Simonburn was possessed of all the land bought by his relatives save for the Chipchase estate itself.

Simonburn was in many ways even during the 18th century the last outpost of law and order on the English side of the Border beyond which the 'King's writ did not run'. The new owners found their tenantry independent to the point of anarchy, sheep stealing was still rife and the activities of the Charlton family reminiscent of an earlier age when law was based on the possession of force. Other than Sir Lancelot none of the

other members of the family stand out, and he only emerges as M.P. for Northumberland in a disputed election in 1748. This apart, the family played only a limited part in even local affairs, preferring the seclusion of a quiet life.

It was Sir Lancelot who built c.1750 Nunwick, the family seat, where I found the estate records. In a stone-built 18th century outhouse I was shown by the present owner, Mr.L.Allgood, and his estate agent, Mr.Percy Hedley, two great wooden boxes some four feet long, three feet wide, and three feet deep, filled with a mass of completely unsorted manuscripts. They had been dumped in these boxes sometime circa 1880 at the time of some clearing out of the estate office, and left.

I was allowed to search through them at will and take out anything which looked of interest which I could bring away with me to examine at leisure. The great bulk of the material was no more than the vouchers for payments and receipts entered into the ledgers. Among the rest, however, there were a complete set of rent rolls from 1730 onward with occasional ones for earlier dates, a number of letters to the agent from James Allgood (Sir Lancelot's heir) c.1780, and a highly miscellaneous collection of sale accounts, builders' accounts, election letters, and so forth. (1) Again, since the material has not been in any way catalogued it is not possible to give normal references to any particular item except in the form of a precise date and indication of the nature of the item.

Before dealing with the next two estates it will be as well if I refer

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(1) Since I was there The Northumberland County Archivist has made a catalogue of the whole collection except that which was at that time in my hands. I must again thank Mr.Allgood for his kindness in letting me take away so much material without hesitation.

The Blackett family.

Sir William Blackett 1
(c.1620-1680) bart 1672.

'A' MATFEN

Sir Edward 1 (1649-1718)

Sir Edward 11 (1683-1756) — Ann Douglas of Matfen

John d.1750

Sir Edward 111 (1719-1804)

Sir William (1759-1816)

Sir Edward 1V. (1805-1885)

John Erasmus Blackett

'B' WALLINGTON ETC.

Sir William Blackett 11.
(c.1653-1705) bart 1685.
bought Wallington 1694.

Sir William 111 (1680-1727)

Elizabeth = Sir Walter Blackett (1707-1777)

Julia m.Sir Walter Calverley d.1749

Julia = Sir John Trevelyan

The Trevelyans of Wallington

Diana = Sir William Wentworth of Bretton nr. Wakefield.

Sir Thomas (Wentworth)Blackett (d.1792)

Diana (d.1832) = Thos.R.Beaumont

Thos Wentworth Beaumont (d.1848)

The Lords Allendale

N.B. The Owners of the lead mining concerns are underlined.

Diana wife of Sir William Wentworth was the youngest sister of Sir Wm. Blackett 111 and Julia.

Both Sir Walter Blackett and Sir Thomas Blackett changed their names under the terms of Sir William 111's will.

to the family tree opposite which sets out the extraordinarily complicated relationships within the Blackett family. The senior branch whose home after 1757 was at Matfen is straight forward while the other branch is highly complicated. The 2nd Sir William inherited from his father little more than his extraordinary business acumen and some of his lead interests. In 1693/4 he bought in return for an annuity the enormous Fenwick estates which the execution of Sir John Fenwick for treason in 1696 turned into a magnificent bargain. His estates passed under settlement to his only surviving son William who in his will left them to his elder sister's son (Walter Calverley) on condition that he married within a year Sir William's illegitimate daughter Elizabeth (Ord) and took the name Blackett. Having complied with the conditions, Walter (Calverley) Blackett enjoyed the estates till his death in 1777. In 1749 he succeeded to his father's baronetcy and lands in Yorkshire. At the time of Sir William III's death there was a debt of £77,000 owing to Guy's Hospital as the legatees of the original lender for which the Wallington estates were security. Sir Walter in order to pay off this debt and free that estate from the provisions of the will sold his paternal lands. The object of this was to enable him to will the Wallington estate to his sister Julia's family, the Trevelyans, rather than see it go to his cousin Sir Thomas Wentworth of Bretton Park near Wakefield. As a result, at his death the estates were divided, Wallington going to the Trevelyans, and the remainder under the terms of Sir William III's will to Sir Thomas Wentworth, who thereupon changed his name to Blackett.

When he died in 1792 there was no male heir to claim the estates under the will, and he was able to leave it to his illegitimate daughter

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Diana, wife of T.R.Beaumont another Yorkshire landowner. From these two the present owner (Lord Allendale) is directly descended.

On this family there remains one further complication. From Edward (? Christopher) Blackett, the elder brother of the first Sir William, are descended the Blacketts of Wylam and the Blackett-Ords. Of these, the only one who figures later in the study is Christopher Blackett who succeeded his kinsman John Erasmus Blackett as chief agent for the Beaumonts in 1808.

From these genealogical details let us turn to the estates of the Blacketts of Matfen. These fall into two parts, the one (about 6,000 acres in 1800) near Haltwhistle in the South Tyne valley referred to always as the 'West Water Estate' and the other (also about 6,000 acres in 1800) near Matfen. The West Water estate was the result of a number of purchases from various individuals during the 1660s and 1670s by Sir William I. The most important of these were Willimonteswyck together with the tythes of Haltwhistle and the lordship of several townships bought from the Ridley family[1] either directly or through an intermediary circa 1673-5. After 1680 no more purchases were made in this area and Sir Edward I having bought Newby near Boroughbridge lived there in the hall reputedly built by Wren. Because of the mode of purchase these estates never formed a nucleated unit but rather consisted of a number of scattered holdings dotted about over a wide area.

During the same period Sir William I had also purchased from the Carnaby family a number of their estates in the Hexham area, including some farms near Matfen, one at Whittington and the important lead-mining manor

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(1) This is the family of the Martyr bishop. For details see the article in Archaeologia Aeliana, 4th Series, Vol. XXXII (1954) by Mr.Percy Hedley.

of Fallowfield. This last was the only large lead mining area lying north of the Tyne and for many years was extremely profitable but never attained to the importance of the areas south of the river. Sir William was not the only purchaser of Carnaby lands, for the bulk of them including most of East Matfen, the whole of Halton, Halton Shields and Aydon Castle were bought by a Newcastle attorney, Oley Douglas. After the attorney's death these passed to his only daughter Anne who about 1750 married Edward Blackett who in 1757 inherited his uncle's estates. In this way most of the old Carnaby lands were reunited and the Blacketts moved from Newby to Matfen which thereafter remained the family seat.

The family, ensured of ample income from their estates, rarely attempted to play a part in national politics, and little is known of their activities. Before leaving them to turn to the estate records there is one man who should be mentioned. George Bates was on his mother's side related to a wealthy Shropshire family, while his father was a small owner occupier of a farm near Hexham. In 1766/7 he became agent and tenant of one of the largest farms on the estate at Aydon Castle. His brother, another tenant on the estate, was in time to become father-in-law of Mathew Culley and his son Thomas Bates the famous shorthorn breeder. For fifty years till his death in 1816 George Bates remained agent and in his way acted for the Blacketts in much the same way as Nicholas Walton, his contemporary and friend, did for Greenwich Hospital.

The family records were cursorily examined some years ago by the then Northumberland County Archivist, and in her list it was suggested that there was some estate material that might be important. In fact, the records are extremely full; ledgers from the 1680s onward have survived

in almost unbroken sequence, for the period from 1770 onward there is a great deal of correspondence from George Bates to his masters (unfortunately I have not been able to find that from the Blacketts to George Bates), and a large number of miscellaneous items. Pride of place among these last must go to the cropping books which, starting in 1775, continue unbroken till 1815 and for selected years thereafter. For each farm a small map is given with the name of each field, its extent and crop grown. Other important and interesting items include mid 18th century plans and elevations for proposed farm buildings, note books in which valuations for tythes in the parish of Stamfordham from 1817 onward are detailed, and a series of valuations made by the agent from 1768 onwards.(1)

For their kinsmen, the Blackett-Beaumonts, the estate records are in various parts. The lead records are housed in the Library of King's College, but as yet have not been indexed. These consist of Cash Books and ledgers which are complete from 1727 till the mid 19th century, and books of letters sent from the head office from the late 1750s till c.1800. In addition to these, at Allenheads there are a few items concerning the lead affairs which have been recently brought up from Bretton Park, together with some land estate material. The bulk of the land records are in the Bywell estate office and include rentals for the Wallington estates 1727-1777, but not for all the other estates which were also at that time owned by Sir Walter Blackett. After 1777 the Wallington material is of course absent but there is an almost complete series of rentals for most of the rest of the estate. The largest

(1) I must thank the late Sir Hugh Blackett and the agent Mr.Ord for allowing me to search ad lib among the various cupboards in the estate office and to take away for further scrutiny anything I wanted. Since the records are not catalogued I cannot again give foot note references.

gap is unfortunately at a crucial point in time, 1808-1817. There is almost no correspondence save for an isolated letter book of the 1820s, but there are some cropping books for the years 1803-1809, a number of surveys and valuations and after 1820 excellent ledgers.(1)

What of the estates to which these records refer? One of the strangest gaps among the evidence is the complete absence of any indication as to the size of the Wallington estate during the 18th century. At least two surveys were made, but I have been informed by Lady Trevelyan that there are no records at Wallington which would be of any interest, and know that there are none at Bywell. It would appear that Sir Thomas Blackett inherited roughly 9,000 acres in 1777, while the Trevelyans probably acquired rather more.(2)

The Hexham estates which formed the bulk of the Blackett/Beaumont portion had originally belonged to the Abbey; later they had been in the hands of the Forster family before passing to the Fenwicks from whom Sir William II bought them. The Wallington estates consisted in the main of a series of large units, whole townships, or moieties of the same which enabled the landlord to create large farms more or less at will. Enclosure of commons when there was only one proprietor with rights was a simple matter. The Hexham estates, on the other hand, consisted rather of a series of individual farms together with the rights as Lords of the 'Regality' of Hexham. In this case the units were smaller, enclosure

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(1) I must thank Lord Allendale and the staff at both Bywell and Allenheads for allowing me to search where I would for material which I could then take away with me for further study. As with other records no references can be given.

(2) In 1873 Sir W.C.Trevelyan was returned as owning 21,342 acres, but I have no means of knowing what purchases or sales had been made during the previous century. A conservative estimate of the Trevelyan portion in 1777 would be at least 14,000 acres, on the basis of the known size of a large part of the estate.

required an Act for the several parts into which the regality was divided, and the lord received his customary sixteenth together with allotments for his holdings. Consolidation of even single farms was difficult if not impossible and they carried into the 19th century the pattern of scattered fields dotted about the townships area as a sure sign of their original nature.

In addition to these estates Sir William II also acquired a considerable holding in Newcastle itself (including the site of much of the Dobson schemes of the 1830s), as well as extensive coal mining interests.(1) The Newcastle lands were sold by Sir Thomas Blackett in the early 1780s, and in any case had never been a source of income but a town residence on the grand scale, and the coal interests were sold earlier by Sir Walter Blackett who found the difficulties in that industry scarcely repaid the effort and expenditure involved.

The last estate was held in part jointly and in part as two separate holdings by the Matfen Blacketts and the Blackett/Beaumonts, and consisted of the Manor (or Township) of Winlaton, and several tenements therein. From the days of Sir Ambrose Crowley onward, Winlaton became increasingly an industrial village, strategically placed near the confluence of the Tyne and the Derwent at a point where the former was still navigable. The holdings (whether of the joint estate or the separate parts particular to each family) were in the main small urban tenements with a few small farms. Since the problems of urban and rural estates are so different I have not included in this study the detailed analysis for Winlaton as they do not provide a large enough sample on which to base any valid conclusions.

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(1) For the coal mining interests of Sir William Blackett II and III, see E.Hughes 'North Country Life in the 18th Century' passim.

It would have been difficult for the owners of such extensive properties not to become involved in local and even national politics. Some indication of the extent to which they were involved can be gained from this list of the members of the family who were also M.Ps:-

Sir William Blackett I		for Newcastle	1673-1680
Sir William Blackett II		for Newcastle	1685-1689 (Convention), 1695-8,1705.
Sir William Blackett III		for Newcastle	1710-1727
Sir Walter Blackett		for Newcastle	1734-1777
Sir John Trevelyan		for Newcastle	1777-1780
Sir Edward Blackett I	of Matfen	for Northumberland	1689-1701
Sir Edward Blackett III	" Matfen	for Northumberland	1768-1774
Thomas Richard Beaumont		for Northumberland	1796-1818
Thomas Wentworth Beaumont		for Northumberland	1818-1826, 1826-1832
Ditto.		for South Northumberland	1832-1848

Not even the Seymour/Percy family approach this record of consistent local representation. Like many of their fellow North-Eastern M.Ps, not one of them was a frequent speaker. With the exception of Sir William II, who played a prominent part in the 1688 revolution in the county and remained a staunch supporter of the Whigs, the rest cannot be provided with a convenient party label, but seem to have been, irrespective of constituency, inclined towards the role of 'Independent country gentlemen'. Sir William III was strongly suspected of Jacobite leaning in 1717 but managed to provide himself with letters of approval signifying his acceptability in government circles. Sir Walter in over thirty years is only recorded as having spoken on four occasions, and then on matters of immediate Newcastle and Northumbrian concern. In the letter books one can see successive agents providing him with the raw material for informed comment on canal proposals, the bread used in the area, and so forth. The same letter books confirm the power over the city which he wielded and which gained him the title of 'uncrowned king of Newcastle'. Two letters

from his agent in October 1758 will suffice for this present purpose, to illustrate both the power and the way it was exercised.

> 3rd October 1758 Joseph Richmond to Sir Walter Blackett
> 'The election yesterday was concluded in a very quiet manner. Mr.Sowerbie chosen Mayor, and Mr.Mosely Sheriff, and we have got a set of electors to our liking without opposition.'
>
> 24th October 1758 as above
> 'Mr.Kelly the water-bailiff under some discontent of mind, put an end to his life by cutting his throat with a pen knife. ...there are already three persons who have offered to purchase the office but nothing will be resolved on by the magistrates and electors till your sentiments are known.'

There were occasional disturbances of this placid condition and from one of these some indication of Sir Walter's views can be gained by inference from his agent's letter.

> 18th February 1769 Henry Richmond to Sir Walter Blackett
> 'In the enclosed newspaper is a sort of invitation to your constituents to send instructions. I believe it is of low extraction, but there is so much enthusiasm in the present times that one cannot tell how far the epidemical disorder may spread, only it is pretty certain it will not affect the corporate body.' (His phrase for the Corporation of Newcastle)

What of the man who enjoyed this power? At Wallington a Gainsborough portrait of him depicts a heavily built 'squire type' with penetrating eyes set wide apart in a kindly face. The evidence of his activities supports the opinion as to character shown in the portrait. Astute, and meticulously enquiring into his affairs, prepared to stretch even the truth in an attempt to drive what he considered a 'fair bargain', he did not suffer his prosperity to go by any default on his part. At the same time, having inherited his chief agent Joseph Richmond, he returned the loyalty of the servant by consistent support. He disliked strongly (particularly his cousin Sir Thomas Wentworth) and could treat any tenant who incurred his displeasure with ruthless severity; but at the same

time could be considerate and generous where he found what he thought of as genuine misfortune. He seems to have acquired, as befitted a Balliol man, a sense of effortless superiority in which arrogance and kindliness towards the less fortunate were carefully blended.

By comparison, Sir Thomas Wentworth emerges as an irascible but weak man who, while enjoying great prosperity, seems to have done little to secure it other than leave it to his masterful agent John Erasmus Blackett to manage. He must be allowed to have had no reason to doubt the skill of his chief agent but his own impact on the estates was very small.

Of Diana Beaumont there are numerous stories told, in all of which her domineering character is sharply contrasted with that of her ineffective husband. After 1795 there is no doubt as to who gave the orders on estate matters; the agents' letters asking for instructions were sent not to the Colonel but to his wife. Even J.E.Blackett had his independence severely curtailed, in itself no mean feat. Apparently incapable of inspiring affection or arousing sympathy in her contemporaries she demanded respect and obedience with the finesse of a steam hammer. Much of this hostility no doubt came from mere jealousy of her great wealth, but the ostentatious way in which she paraded it and her violent temper provided more respectable grounds for dislike even among those who allowed her abilities. The historian must respect her successes, acknowledge her business acumen, admire her tenacity, and even marvel at her capacity for hard and detailed work, but in the end can find little with which to sympathize in one whose sole motive and loyalty seems to have been self and son.

During his mother's lifetime much of this hostility was transferred to the son, T.W.Beaumont, though he was quite capable of arousing hatred on his own account. In September 1823 he had a violent quarrel with the Swinburne family to whose daughter he was at that time engaged. His agent at Bywell reported the gossip 'that he had used the most violent language towards Sir John and his sons stating them to be rascals and Lady Swinburne no better than a whore.' In the face of this uproar he retired for the winter to Rome and Naples, but in 1826 a quarrel with Lord Howick and the future Earl of Durham led to a duel. It is very noticeable that after his mother's death hostility seems to have declined and even his own quarrelsome nature to have mellowed, while his attentiveness as M.P. and liberality towards his tenants created a considerable impression during the 1830s. In his estate affairs he appears to have relied almost completely on the agent, accepting his advice in nearly every case, restricting himself to the laying down of the general lines of policy.

One cannot leave this estate without mentioning the succession of chief agents employed. Joseph and Henry Richmond who occupied the post as father and son from the early 1720s till circa 1773 appear from the letters as quiet, efficient men, determined whenever possible to avoid difficulties by the exercise of discretion. Safety in preference to risk, even if the risk offered the prospect of possible success, appears to have been their way, in contrast to that of their successor J.E.Blackett. Undoubtedly extremely able, John Erasmus Blackett had a streak of unscrupulousness which at times crossed the line of honesty. His son-in-law, Admiral Collingwood, refused to be a party to some of his schemes,

and his attempts to create a great personal fortune ended in failure. As a servant of the Blackett/Beaumont family he provided them with great wealth, but involved them in heavy losses. Under his rule the annual income from lead rose from about £8,000 p.a. to over £50,000, but against this he must take responsibility for the £70,000 which the Bishop required as a settlement, and some blame for the £80,000 lost through the failure of the Bank of Surtees, Burdon and Brandling. Both these losses occurred in 1806/7 and he was dismissed, to be succeeded by Christopher Blackett who left no mark on the affairs during the two years of his agency. In 1809 William Morrison was appointed and remained in the post till his death in 1827 when he was succeeded by J.Losh, a leading Newcastle attorney. Morrison never became more than the instrument by which his mistress managed the estate, and even Losh's functions seem to have involved little more than letter writing to the several sub-agents and the auditing of their accounts.

The last estate which is analysed in detail is that of the Greys of Howick. When the 2nd Earl inherited this from his bachelor uncle Sir Henry Grey it consisted of about 26,000 acres, in a series of isolated parcels throughout northern Northumberland. In no single place did they own more than 4,000 acres and Howick itself, which became the family seat, was essentially little more than just one of these parcels. The reasons for this diversity are to be found in the process by which the estate came into the hands of Sir Henry Grey's father. The family had for centuries been prominent in the county and by the end of the 17th century the senior branch of the family had been raised to the peerage as Earls of Tankerville. In 1708, following the failure in the male line of this

branch of the family, most of the estates passed to the heiress and her husband (Mr.Bennett) who was later created Earl of Tankerville. Some of the lands were, however, entailed on the male side of the family and devolved on the next senior branch in the person of Sir Henry Grey of Horton. His son and heir having succeeded in 1749 to both these and the Falloden estates (from his mother) moved to Howick in 1752 where he had built himself a new hall. It was on his death in 1808 that they passed to his nephew who had succeeded to the earldom the previous year. It was at this time that Falloden passed into the hands of the 2nd earl's cousin from whom the future Liberal Foreign Secretary was descended.

This acquisition by one branch of a very old and important family of an increased share of the total family holding resulted in an estate which bore some resemblance to the Wallington estate. The several units were in general not isolated single farms within existing townships but whole townships which in time were to become single large farms. Unlike Wallington these units were scattered over a very wide area and there was no large block of connected holdings. This enables a close comparison of rental history to be undertaken of farms which differed not in owner but in location from the coast to the Cheviots and from the Scottish border to well south of Alnwick.

Of the several owners little either can or need be said. Of the two Sir Henry Greys very little is known save that the 2nd one was a keen agriculturalist who was responsible for a number of the 'great beasts' which were to culminate in the Durham Ox. The public life of the 2nd earl is too well known to need any mention here; as an owner he

seems to have taken a keen interest in the running of the estate and particularly in the home farm at Howick. There have survived a number of letters and the like on routine matters addressed to him at Downing Street which are reminiscent of Walpole's gamekeeper's in that they received prompt attention irrespective of the grave national problems being dealt with. Against this interest must be placed the fact that in the years following his death in 1846 the estate was saddled with very heavy liabilities and only strict economy and the discovery of rich coal seams prevented a calamity. He seems to have treated his mortgages in much the same manner as he looked on the National debt, as something which could and almost ought not to be liquidated. During his period of ownership, debts secured on mortgage or bonds rose so that annual interest payments from £2,500 in 1809 were over £8,000 in the early 1840s, together with a further £3,000 for annuities to members of the family. Far from this being offset by any enormous increase in rent income it shows an increase from less than 15% of income in 1809 to over 48% by 1841. In part, the size of his family was responsible for this, but the bulk was borrowed to further the political career of the future Lord Howick and enable the father to live at the level which his political importance seemed to indicate. For the 3rd Earl office in the late 1840s was a financial necessity.

For the period prior to 1803 the estate records are scanty and consist of a few isolated rentals, but after that date there are a full set of ledgers and cash books, together with a number of valuable miscellaneous items. The most important and interesting of these latter are an almost complete set of returns completed every fortnight in which

the affairs of the home farm are dealt with in extraordinary detail. The name of each labourer, what he did each day, the sales or purchases of grain or livestock, lambs born and calves with the names of their mother; all this was given and from 1802 for at least 50 years the series appears to be virtually unbroken. When to this can be added details of the number of acres of the several grain crops grown, the quantities of both seed and yield and detailed ledgers for the farm, it can be seen that there is an extraordinary wealth of information available.

The man who wrote these out in a perfect copper plate hand, together with valuations and all other estate matters, was John Anderson, who was agent from at least 1798 till his death in 1834. Unfortunately none of what we know to have been a voluminous correspondence appears to have survived so that other than his attention to detail we know little of him, nor of who made the decisions concerning the running of the estate.(1)

In addition to these six estates I have looked at a number of others. In some cases there was not sufficient to enable a detailed analysis over any length of time to be undertaken. Such was the case with the Eslington mss of Lord Ravensworth which, while providing great detail for the first few years of their ownership of that estate after they had purchased it from the Forfeited Estate Commissioners (the previous owners, the Collingwoods, were out in 1715) contained almost nothing between 1725 and 1839. Among the mss there were, however, some very important letters concerning the affairs of the Grand Allies during the early years of the

(1) The Grey Papers are now housed in the Prior's Kitchen at Durham in the University's Department of Palaeography. As yet the estate material has not been catalogued so that again it is not possible to give footnote references to any particular ms. I must thank Dr.Fagg and his assistants for allowing me to examine this material.

19th century, but again nothing for either before or after that period.

At the other extreme I have made what must only have been a cursory survey of the affairs of the Bishopric and Dean and Chapter of Durham. In this case the problem is not the lack of material but its super-abundance. To have extracted from this a series of ledger entries was comparatively simple, but I was not at that stage either in a position or desirous of going deeper into their records. It is, however, from these minor sources that I have collected much of the information on which the comparisons between agricultural, lead and coal incomes are based.

I have either seen or from other sources know of the existence of a considerable body of other estate records for Northumberland, from which in time I hope to extend the scope of this study. As a glance at the map shows I have little or no evidence for much of central and south eastern Northumberland. In this latter area the presence of coal will make any comparable survey much harder, and it will be necessary to go into the coal trade itself in much greater detail. This present study is in some ways only the first stage of a much more ambitious scheme which would comprehend a full economic history of the North East during the 18th and early 19th century. The 100,000 or so acres for which the present study gives details is little more than 10% of the total surface area of the county, even agriculture is only one of the many sectors of the economy, but these estates and their records can be used as a periscope through which one can see, albeit within a restricted horizon, the process of evolution in society and economy.

Section 2.

THE LEAD INDUSTRY.

Synopsis:-

Part 1. (pages 43-69) The economic organization of the extractive side of the industry is illustrated by reference to the different methods used by the several royalty owners to convert such rights into cash. The problems of lease renewals;costs and total production in Weardale,Allendale and Alston Moor are also discussed.

Part 2. (pages 69-96) The processing side of industry is described and the relative costs of carriage of ore,smelting and the carriage of the lead from the mill examined. This is followed by a brief description of the refining of silver and its marketing.

Part 3. (pages 97-115) The selling side (wholesale) in Newcastle is described and note taken of the sensitivity of lead prices to far ranging international events. The course of lead prices after the mid 1750s is given with the commentary of contemporary letters and the difficulties of selling year by year constant quantities shown.

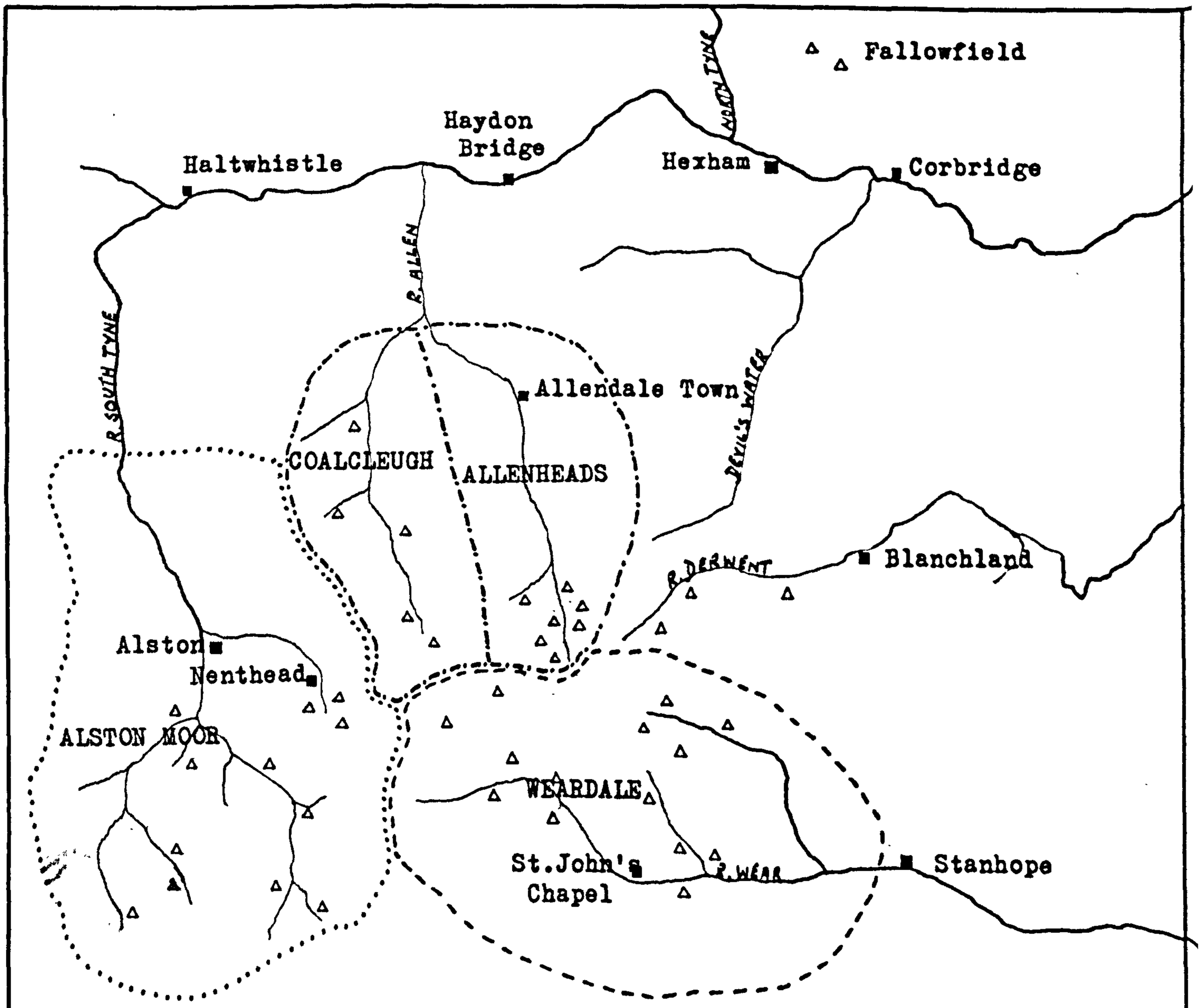
Part 4. (pages 116-124) Against the background of the many variables which had been observed in the previous three parts of this section the actual income derived from their lead interests by the Blackett/Beaumonts and Greenwich Hospital is given. For the former this covers both annual trading income or loss and the balance after changes in the stock value have been taken into account from 1727 to 1828; and the latter's income before and after the erection of the mill near Langley Castle in 1767/8.

GLOSSARY OF LEAD MINING TERMS

Lott Ore	That portion of the ore raised to which the Lord of the Manor had a right as a Royalty rent. This was not a fixed proportion being approximately one-tenth in Weardale and either one-sixth or one-fifth in Alston Moor.
Tythe Ore	That portion of the ore to which the Rector of the Parish had a right as Tythe owner whether lay or cleric.
Bouse Ore	The large pieces of ore (galena) of the better quality
Cutting Ore	Smaller pieces of ore of inferior quality.
Grove	(1) The entrance area to an individual mine. (2) General term for a mine or series of mines within a small area.
Fathom Work	Stone work in driving levels or sinking shafts in which the workmen were paid by the number of fathoms sunk or driven in a forward direction at a given bore.
Level	An underground way (with or without direct access to the surface) which is more or less horizontal as opposed to a shaft which is vertical.
Litharge	A lead oxide produced in the refining process and used in the manufacture of paint, putty and glazing pottery among others.

Slag and black slag.	Impure refuse containing a large quantity of lead. Ordinary slags are the refuse of the smelting process and black slags those of the refining process.
The Test	(1) The vessel in which the lead was de-silverised. (2) The process of de-silverising in which the said vessel was used.
Stamping	Crushing (particularly of the ore prior to smelting and the slags prior to their being resmelted.)

THE LEAD MINING AREAS.



KEY.

- - - - Boundary of Weardale
—·—·— Boundary of East & West Allendale
..... Boundary of Alston Moor

△ Principal mining sites of the 18th century.

Scale: One Quarter inch to one mile.

To the landowner fortunate enough to have rights over tracts of land under which lead was present in workable form there were in the 18th century three common ways open to him to convert these rights into cash. In Weardale the Bishops of Durham and the Rectors of Stanhope adopted the simple expedient of granting their rights in toto to one concessionary. Greenwich Hospital in Alston Moor pursued a policy of granting a number of leases to separate 'Adventurers'; while in Allendale the Blackett family (and their successors the Beaumonts) who were also the Weardale concessionaries exploited the mineral wealth directly. Each of these methods had both advantages as well as drawbacks and it will be best to deal with them separately.

Although appearing at first sight a simple method, the granting of the episcopal rights in Weardale produced a large number of leases which were more or less complementary. Of these leases some were for a period of years, some for three lives and others during pleasure. The most important of all was the Moor Master's lease for lives at an annual fixed rent of £150 for the sole right of digging for lead in the unenclosed parts of the Manor of Weardale. To this was added the 'composition', a money payment in lieu of the Lott ore of one ninth part of all the ore raised which was payable in addition to the Moor Master's fixed rent. To complicate matters still further there were a number of other leases for grounds and mineral rights in the old enclosed parts of the Manor, some of which were for 21 years, renewable every seven, and others for three lives.

The rectors of Stanhope relied on a composition for the tythe of all ore raised in the parish (which was nearly coterminous with the manor) and this composition like that of the Bishops' was only for the

incumbency of one Rector and subject to renewal whenever the rectory changed hands. It will be necessary to return later to the composition for both tythe and Lott ore but first we can deal with the other sources of income.

At the beginning of the 18th century the figure of £150 p.a. represented a real economic value but by the 1770s it had become artificial in the extreme, failing to take any account of increasing production. In this there was nothing unusual for in both mineral and agricultural leases the Bishops of Durham and the Deans and Chapters of both Durham and Carlisle appear content to leave the annual rent at a fixed sum, and not reap any benefit from improvements from that source. The fine on renewal whether every seven years or for the insertion of a new life in the place of one that had died became the realistic source of income. The tables produced by Sir Isaac Newton on which such fines were to be calculated were already well known by the middle decades of the 18th century, but the arbitrary nature of such fines was never forgotten. In 1760 one of the lives in the Moor Master's lease having died, Sir Walter Blackett made approaches to have a new life inserted and the surviving correspondence shows a 'wind of change' blowing not altogether to the Blackett's liking or advantage. On May 4th 1760 Joseph Richmond who had been Sir Walter's chief Agent for over thirty years wrote to his master:

> 'I think it very unreasonable in the Bishop to require a particular account of your working the groves and the profits arising from them, and what you should not submit to in case it can any way be avoided, I dare say it is a thing never before required on the renewal of any colliery or lead mine lease.'

Five weeks later, on the 13th of June 1760, Richmond enlarged on the grievances with an air of injured incredulity at the new demands.

> 'If you were to offer a fine of 200 guineas, I do not believe he would accept of it, having no doubt had the matter sett forth to him in a quite different light. For it cannot be supposed that he knows the truth of the case himself, and you are sensible that on every occasion of this nature there have always been persons, to ingratiate themselves, very ready to represent things according to their own sanguine imaginations, widely different from the truth. .... The profits appear (over the last three years) to me by the grove accounts to have been no more than £218 per annum, and surely his Lordship will never ask any more than a year's profit for a fine of a lead mine.'

His hopes were ill-founded, the Bishop refused to accept the figure of £218 as a true reckoning of the profits, and demanded, successfully, a fine of £1,500. To demonstrate the importance of this source of income it is only necessary to detail the fines paid for the three lives extant in 1820. Sir John Trevelyan (a great-nephew of Sir Walter's), had been inserted in 1771 for a fine of 1,000 guineas, was still alive in 1834. John Depledge, inserted in 1783 (loco Sir Walter deceased) when he was 22 years old, had required a payment of 1,250 guineas. The latest inclusion, that of Richard Senior, who had been put in in 1808 when he was 7 years old, had required no less than £15,000. The importance of keeping such people alive was not lost on the Blacketts nor was the selection of suitable candidates left to chance. From time to time attempts are made to exchange one life for another in the hope of satisfying the Bishop with a lesser fine. Such a scheme was tried in 1786 when John Erasmus Blackett, the then chief agent, wrote in October to Sir Thomas:

> 'A healthy boy of 10 or 12 years of age is thought to be the most eligible life and such a person may I imagine be met with in your neighbourhood, who is not likely to go into a gentleman's service. Mr.Wilson said his son William (who is eleven years of age and has had the small pox etc.) is as good life as he knew of.

> He is a healthy lad and is not intended to be sent abroad nor to go into the army or navy, and I do not think you can have a better.'

The plan was to exchange this young lad's life for that of a certain Thomas Hepple, who had been ailing for some time, at half the fine paid in 1783, and for this a certificate of Hepple's being alive and in reasonable health was sent, duly signed by the Vicar of Cambo, to the Bishop's secretary. Unfortunately the secretary decided to look for himself and on November 17th J.E.Blackett wrote:

> 'Mr.Dew, the bishop's secretary, has been in the neighbourhood of Wallington to call on Mr.Hepple, and told me that he found him so very ill and in so bad a way that it was his opinion he could not live a couple of months, on which account he has put a stop to the proceeding as to the exchange.'

This concern for their health was normally the only benefit that came to the person whose name was thus inserted. Steps were taken to ensure free medical care and even stays at a spa, but in the end the hopelessness of some situations resulted in a letter such as this of December 1801 from J.E.Blackett to Mrs.Beaumont:

> 'You will receive enclosed a copy of Mr.Emm's (the bishop's secretary) letter from which you will see that the bishop is averse to the exchanging of a life. I wish that it had been otherwise, as I look upon Mr.Robson's as a very bad one; he is twenty four stones, lives full, drinks a great deal of Yorkshire ale, is very lethargic and has twice lately drop't off his chair.'

The danger at the passing of one such life was however as nothing compared with the risks attending the death or translation of either a Bishop or a Rector. The composition payable to these two for their lott and tythe ore were only for the period of their incumbency, and each new appointee had to make such arrangements as he could. In the early part of the century until 1787 the compositions had remained static at £350 p.a.

to the Bishops for their lott ore, and £315.p.a. to the Rectors for their tythe ore and it was acknowledged even by the Blacketts that the Blacketts were considerable gainers by this. Thereafter it became much harder to convince the successive clerics that they were getting their fair shares. If we deal with the Bishop first the Composition was raised in 1787 to £850 and with this he seemed satisfied until 1802 when he started inquiries that were to end in a Chancery suit. On May 15th of the year J.E.Blackett wrote to Col.Beaumont of the preliminary encounter of this campaign.

> 'Two of the Bishop's agents, Mr.Mowbray and Mr.Cassels, called on me on Friday (the day before) and desired to be informed of the quantity of ore raised from the Weardale mines during the time that the Bishop had been in possession of the See, as he had reason to believe that the sum that he has received as a composition for his one ninth part or lott ore was far from being an equivalent to the sum that he was entitled to for his one ninth part of the ore. I told them that the agreement which the Bishop entered into would be binding on his Lordship. They seemed to think that the agreement entered into with the late Sir Thomas Blackett could not be binding on the Bishop, and produced a letter from him to Mr.Mowbray saying that he was induced to enter into it on the solemn assurance of Mr.Blackett (the writer) that the sum offered was a full compensation for his dues of one ninth part. .... I gave a positive denial of having made any such declaration. ...This claim of the Bishop has surprised me very much, he is I imagine put on it by Mr.Mowbray, but it is very disgraceful to him.'

By August of that year a bill in Chancery had been filed by the Bishop against Col.and Mrs.Beaumont, which after many delays was due to come up for hearing in the Autumn of 1807. At that time discretion assisted by legal opinion induced the Beaumonts to settle out of court. The terms of this settlement were that the Composition should henceforth be at the rate of £4,000 per annum and that £70,000 should be paid as a lump sum for the previous years when the composition had born little or no relationship to the production. That the Bishop had gained so much

was in no small measure due to the exertions of his agent Mowbray. In 1803 there had been doubts on that side but they were laid aside, and the letter of 23rd April 1803 shows clearly who was behind the Bishop's move.

Arthur Mowbray to the Bishop:[1]

'I most earnestly wish the points to be well weighed together and the whole of the bearings materially considered so as to draw the whole into one regular system, in no one instance have I wished more earnestly for success, for if your Lordship do not succeed and that it does not appear that there was firm grounds to go upon it would be unpleasant and I shall be very sorry. I think if Blackett's letter contains matter - as by your Lordship's letter it may, its a strong bearing point in Col.Beaumont's favour.

I always considered y'r Lordship's case put rather in a light manner and open to attacks.. I beg this to be treated as a private matter, and if I am over zealous it's because I am anxious. I believe Mr.Emm means very well. I think his thread fine spun, and if he would do far less he would do a great deal more. I think he ought to confine himself to stating the fine and cease writing long letters to the lessees on matters he is unacquainted with; - in several instances it undoes everything that I have done - for the rights of the See is very little known - I apprehend that I can easily show I have regained possession to a very considerable amount and am daily doing more, and to have my labours strewed about I have felt and do feel at times hurt.'

One hopes that it was a mere coincidence that the same Mr.Mowbray was also closely connected with the collectors of income tax for the Darlington Ward in which the tax on the lead mines was paid, but certainly the Beaumonts tried to get their taxation moved from that centre to a more friendly district such as Hexham where they are able to influence the officials more easily. Wherever the pressure came from, there is no doubt that after 1808 the See of Durham was never again to receive less than £4,000 per annum from Weardale. It was only when the mining industry collapsed at the end of the century that the Bishop's successors, the Ecclesiastical Commissioners, were forced reluctantly

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(1) Church Commission Mss 57354 (Durham Misc. 11 1800 onwards) in the Prior's Kitchen.

to give up this income.

This sum of £4,000 p.a. was agreed to by Barrington's successor in 1826 and thereafter rose slowly till by the early 1850s the Bishop was receiving £4,854 p.a. When the Ecclesiastical Commissioners took over this part of the Bishop's revenue in 1857 they proceeded to increase their income until in 1859 they received £7,700. With such large sums as this involved it is scarcely surprising that the news of the death of the Rector of Stanhope in 1820 should produce consternation.

Prior to 1787 the composition paid for tythe ore had remained at £315 p.a. despite the efforts of the Rev. T. Thurlow in 1781 to get more. On the appointment of Henry Hardinge (father of the Gov.-General) in 1792 this composition was raised to £450 though only on the understanding that it would be reviewed at a later date. In August 1799 Hardinge agreed to accept £1,500 for the remainder of his incumbency and it was his death in 1820 that led to the following letters from Mr.Marshall (the Beaumonts' head agent)to his mistress Mrs. Diana Beaumont.

'Newcastle, 15th Sept. 1820:

Madam,

It is with great concern I announce to you that the Rev.Henry Hardinge, Rector of Stanhope, died last Saturday (the 9th instant). This event so important in its consequences to your interest I was only acquainted with last night, and have no information as yet who is to be his successor, the probability is that Lord Barrington will obtain the living. It is seriously to be apprehended that the future Rector, whoever he may be, will not accept of less compensation for the tythe than what the Bishop now receives for his lot ore, perhaps he may demand more or insist upon drawing the tythe in kind, and if such should unfortunately be his determination the consequences will to you be disastrous.'

A week later this danger is enlarged upon though the name of the successor is still not known:

'22nd September:

> Whatever I hear tends to confirm me in the opinion that the view entertained by the clergy of the diocese of the value of the living are of the most exaggerated description and that they are impressed with the idea that mining (both lead and coal) is the source of exhaustless wealth to the possessor. The Dean and Chapter of Durham having lately secured from Lord Steward £40,000 for the renewal of the lease of his colliery has had the effect, I am told, of that body setting no bounds to the benefits they expect from their mineral property.'

By the middle of October Mr.Marshall had offered,more in hope than expectation, £3,000 to the Rev.H.Philpotts, and his letter of the 20th of that month describes the rejection of that offer.

> I found him greatly displeased and hurt, at the report which has circulated in Weardale last week that he had refused to accept £3,000 and which had been represented to him of having such an effect upon the workmens' minds as to render his appearance at Stanhope a step of personal danger, and that in consequence he has been deterred from going as he intended to perform his duty on Sunday. ....Having observed that having taken the average of the produce of the mines for the three years (1817-1819) he would accept the value of 250 tons of lead annually at a price to be regulated by our sales, or, a money composition of £5,000 per annum. To such an exhorbitant demand, I told him I would not reply, and seriously urged him to weigh in his own mind the consequences of persisting to demand it.'
>
> Faced with such a demand from a person of the calibre of the future

Bishop of Exeter there would seem little that the Beaumonts could do. The only line suggested by them was to use the power of public opinion in Weardale among the predominantly Nonconformist body of miners, along the lines that had already been tried in order to intimidate the Rector.

On the 25th of October such a procedure is suggested:

> 'Would it not best promote the object of influencing the mind of Mr.Philpotts to moderation to adopt at once with firmness a temporary plan of reduction of working the mines, and throw upon him the deserved odium, of all the distress that must necessarily ensue throughout the district?

> The adoption of this measure will undoubtedly be productive of great calamity; but no candid person can impute blame to you after the liberal offer made for his tythe ore.'

Such a scheme was however not put into practice and by the 14th November agreement had been reached by which the Rector was to receive £4,500 p.a. during the life of the then Bishop of Durham.

In 1826, when Barrington died, negotiations were reopened and for two years the Rector received his tythe in kind, but by 1829 the difficulties this method imposed on him forced a reduction in his demands and he accepted a direct money payment geared to the actual production which in fact meant that he and his successors were getting in the period 1830 to 1860 normally between £3,500 and £3,900.

From this it can be seen that though in the 18th century the church was somewhat slow in obtaining its pound of flesh, by the beginning of the next century there was no such backwardness. As a result of the methods they employed they were assured of a steady income, particularly after the turn of the century, without having to take any risks with their own capital, nor being affected by periodic fluctuations of either price or production. For them it proved a successful method involving no risks, nevertheless, as one would expect, their gains were not as great as those of other landowners who took a more active role in the exploitation of mineral wealth. The mere fact that the Beaumonts were able, under protest, to pay out such large sums with surprising ease and without any apparent lessening of profits, suggests that it was not by such methods that the greatest income was achieved.

Alston Moor, though administratively part of Cumberland, was by the beginning of the 18th century economically part of the North East coast

area rather than the North West. The mineral rights over this large area became vested in 1735 in the Greenwich Hospital for Seamen.(1) At that time the mines were in a very poor state and the uncertainty over ownership and the lack of effective control in the twenty years since the forfeiture had led to abuses on the one hand and an unwillingness to invest on the other. The income to the hospital in the first few years was below £1,000 p.a., being as low as £372 in 1737-8. An abstract of a memo from a certain Mr.Watson to the secretary of the Hospital, dated 15th July 1735, described the method by which such income was achieved.(2)

> 'That proprietors either work them or grant tack notes and leases to adventurers who pay no certain rent but 1/5th, 1/6th, or 1/7th dish or bing of all well washed ore, but the latter method was generally practised by the Derwentwater family. 1/5th dues are paid to their Moor Master whose business it is to receive the same and to see (that) the mines be duly wrought according to covenant and if they omitted working with 4 men a day for 20 days in a year (Sundays, Holydays and violent storms excepted) their lease to be forfeited and to pay 20/- per month for such discontinuance. The lord's dues have formerly been from £1,000 to £4,000 p.a., but since the death of Earl James the mines most of them neglected'.

The principal difficulty arose from the practice which had been allowed to creep in of 'Hushing' for lead, in which water is flooded into the workings at great pressure and the lead ore is washed out. The extent of the damage done by irresponsible mining of that sort is stressed in a letter of 24th January 1736(3)

> 'The lead mines are very numerous in this manor but are ....in such a condition as renders them unprofitable in many places and in the whole the revenue arising therefrom very small; the shafts and

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(1) See Introduction, p. 18.

(2) Adm. 66/105 Letters from the Receivers p.34, abstract of Mr.Watson's memo to Thos.Corbett.

(3) Adm. 66/105 Walton & Boag to Thos.Corbett.

> watercourses in most of 'em being destroyed by hushing a practice in mining though long known yett was not practised till late years.'

Faced with this situation one possibility was to do as the Bishops had done and grant all the mineral rights en bloc to one large undertaking and in the Quaker Lead Company just such a body seemed at hand; this, however, was not to be, as can be seen from this letter of August 24th 1736, in which the Receivers Walton and Boag advise against it.(1)

> 'It is represented to us that the Quakers Co. are designed to take all the lead mines in the Manor of Alston Moor, which we think proper to make this observation upon: that it will be a great discouragement to adventurers and a great loss to the Hospital. You will have, Sir, many gentlemen bidders or adventurers, who will undertake and work with vigour and there will be numbers of inferior persons and it is humbly our thoughts that the greater the number of adventurers the more profit will accrue.'

In accordance with the advice in this letter the idea of a single large lessee was given up and in its place a number of competing adventurers were granted tack notes to start working for lead. Such tack notes were in the nature of a lease for one year, with the option on the part of the lessee to continue for a further twenty years, of all the lead within a specified area, usually 1,000 yds. length of a known vein. The income of Greenwich Hospital was derived, as had been that of the Derwentwater family, from the dues of one-fifth part of the clean-washed ore raised within the Manor. Such dues were collected by the Moor Master and then sold as ore to any undertaking offering a fair price. In practice there emerged in the late 1730s two large undertakings on Alston Moor, one the Quaker Lead Co., and the other a cartel led by George Liddell (uncle of the 1st Lord Ravensworth for whom Walton and Boag were agents even before they became Receivers), but even so there were in the

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(1) Adm. 66/105 Walton & Boag to Wm.Corbett (Brother and Successor of Thos.)

early 1740s only just over 30 mines working. After the death of Geo. Liddell the bulk of leases which his company had held were made over to the Quakers and they became by far the largest unit working. It would however be wrong to imagine that they ever approached the monopolistic state which the Blacketts enjoyed in Weardale, for example even in 1830 they held fewer than half the mines then working and employed rather less than 45% of the total labour force.

The system by which the dues were received in kind and sold as unsmelted ore continued until the late 1760s when a significant change was made as a result of which the Hospital began smelting and merchanting the processed lead produced from the dues. The reason for this change was the hope of greater profit and the great increase in the quantity of dues which made the setting up of a smelt mill an economic proposition.

> 'We are inclined to believe that a reasonable profit may be made to the Hospital by smelting their own dues and the quantity of duty ore is now so considerable as to make it more eligible for the Hospital to smelt than ever as there will be full employment for the agency and workmen the whole year, which was not the case when the quantity was less.' (1)

In this letter of April 1767 the then receivers, Walton jun. and Smeaton, argued their case for the setting up of a mill. We will return to the working of this method in more detail but at this stage it is only necessary to state that after that date the profits to the Hospital were tied very closely to the market price of lead and they became more and more concerned with that part of the lead industry. In 1813 an extension of this system was started by which the Hospital not only smelted

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(1) P.R.O. Adm. 106/111, p.351.

its own ore dues but also bought ore from various of the smaller mining concerns in Alston and made what profit it could simply by processing. This was, however, a short lived venture for when in the early 1830s the whole administration of the Hospital was overhauled and John Grey became sole receiver the mill business was given up and the whole of the active participation in lead mining reduced to a bare minimum. The reasons for this would seem to be that there had been in this branch, as in the landed affairs, gross mismanagement in the 1820s and that this, coupled with a depression in the lead trade, determined the Hospital authorities to settle for a fixed revenue devoid of any risk.

Although at no time had the Hospital taken any direct part in mining, it had involved itself in a massive undertaking to further the mining prosperity of the whole area. The Nent Force level started in 1776 under the guidance of Smeaton was an amalgamation of the idea of a canal, a system of underground drainage, and an extensive trial for new veins, consisting of an underground channel intended to be five miles long. It was carried on at great expense and by 1806,when only 2¼ miles of it had been driven, had already cost over £26,000 at about £6.19.0 per yard. Like the rest of the lead affairs it was given up after the 1830 reorganisation and remains little more than a symbol of reckless extravagence. Nor was this all. The Hospital were always ready to assist in financing road building and any other public works, with only scant regard to the value of the investment. In fact by 1830 this sort of investment had become almost an alternative to local poor relief in true 'Public works' fashion. On 4th December of that year one of the last letters of Wailes as receiver illustrates this exactly.

'In consequence of the low price of lead we think it very probable that a larger proportion than usual of the mining population of Alston Moor will be thrown out of employment during the ensuing winter and that consequently a great increase in the poor-rate will take place (N.B. The Hospital's estates were not subject to poor-rate) therefore we propose the continuing of the Nent Force level on a contracted scale and road improvements. These afford the best field for the employment of capital by those owners of property within the district who wish to combine a certain public benefit with a reasonable prospect of advantage to themselves.'

Although socially preferable to Speenhamland as a piece of efficient landowning this is not calculated to bring in the highest income.

Because the income of the Hospital from its lead interests was closely connected with the fluctuating price of both ore and finished lead I will do no more at this stage and deal with the results of the system just described after I have given an account of the system employed by the Blacketts-Beaumonts.

The activities of the Blackett family in both the leasehold area of Weardale and in Allendale where they were also the royalty owners were from the early years of the 18th century far more complex than those of even Greenwich Hospital. By 1729 an organisation had been perfected which needed little modification for the next century. This was centred on a chief agent in Newcastle beneath whom there were three agents for the three mining areas - Weardale, Allenheads, and Coal Cleugh - and a mill agent resident at Dukesfield. The chief agent was responsible for the superintendence of the whole, and the sales side of both the lead and silver produced. The Mill agent not only controlled the processing at the various mills but also the carriage of the ore to these mills, and the lead from the mills to the refinery and warehouse at Blaydon. The agents at the mining centres with their assistants were responsible for making the 'Bargains' with the workmen and all 'Dead Work'. An elaborate

system of bookkeeping made fraud virtually impossible but the greatest testimony to the system is that it was able without any drastic changes to cope with an increase of turnover from some £15,000 per annum to nearly £250,000 per annum.

At the mining centres the normal method of raising ore was by means of 'bargains'. These were entered into each quarter between the agent and a small group of miners who agreed to raise ore at so much per bing (8 cwts.) in a specified area. Two examples will suffice. The first dated April the 6th 1744 and the second January the 4th 1790.

> 'Allercleugh Mine; lett to John Nattrass, Nicholas Natrass (sic), Ja.Gibson, Anth.Brown, John Colterd and Cuthbert Watson a bargain to get oar where they last wrought at 18/- per bing for the oar they get to June 30th, 1744.'

> 'Sedlin Mine; lett William Watson and seven partners (Wm., John, Stephen, George, Peter, and Ralph Watson) a bargain to get ore in 20 faths. of ground east of the low sump in the old level roofs at 30/- per bing to March 31st 1790.'

The price paid per bing is very flexible and seems to be governed by a primitive cost of living index in which the miners are paid sufficient to enable them to make a reasonable livelihood; the only ceiling being the maximum which the agent is prepared to offer per bing. If the miners do not think they can make a living wage at that price they try for a bargain in some other mine, where the chances of getting more ore are higher even though the rate per bing may be lower. This way seems to have many advantages for the lead mining industry where the variability of yields makes short-term contracts and differing rates per bing inevitable. These 'bargain men' were normally paid annually in the Spring, for the ore they had raised in the period September to September previous, at the Great Pays. Between the Great Pays they were,

however, given 'subsistence money' on account, which was deducted from their pay at the annual reckoning. Such men had to provide their own candles as well as any other pieces of equipment they might require.

The bargains, however, were only part of the expenses that were incurred in the mines, for in addition to these there were various types of 'dead works' so called because they did not produce directly any profitable ore. Of these the most important was that which was paid by the fathom for the driving of underground levels both in search of new veins and for the easier removal of the ore from those already being worked. The rates of pay and conditions for such work were in most respects similar to the bargains for ore in that the prices per fathom were varied according to the hardness of the strata and they were normally agreed for periods of three months. They were, however, subject to review at more frequent intervals in the event of a drastic change in the strata. Most of these fathom bargains were entered into by the same groups as worked for ore in the mid 18th century, but by the 19th century this had become a specialised work performed by men who did little else.

Many men were, however, employed in a variety of tasks on a day wage. These people,described as woodmen, dead workers, and labourers, were responsible for putting in the underground props in the workings, filling and carrying deads (removing the waste stones from the workings), attending to the bellows for ventilation, etc. The rate of pay for these men in the middle of the 18th century varied from 1/- to 8d per day, depending on the skill required and thereafter rose as one would expect in the Napoleonic war period. It would seem that these wages were higher than agricultural wages in the neighbourhood but lower than those earned in the

Coal Mines. Much of this labour was, however, very uncertain and presented a precarious livelihood as these were the first to be laid off in times of stress.

Because of all these component elements the cost of ore is subject to violent fluctuations. The art of the mine agent was to ensure continuity of production as far as possible by the judicious application of dead work. The nature of the veins, however, made this at times impossible so that the owners had to be prepared to pay an uneconomic price for a few years in order to ensure a continuation of supply. It was, nevertheless, possible for the owner to reduce, at least temporarily, the cost of production when the price of lead fell, by simply reducing the dead working charges. In the depression of 1781-1783 the agents were ordered to do this and as a result the cost per bing in Weardale dropped from 68/6d in 1778 to 48/2d in 1782. The best way of showing these various components is to compare ~~three or four~~ two sample years - in this case at the Allenheads mines from which the range of these differences can be more easily seen. Table 1 shows for comparative purposes the years 1755 and 1765 selected because the former is a year of low price and high yield, whereas in the latter the reverse is the case.

Table 1. Elements in production costs of ore at Allenheads: 1755 and 1765

Heading	Total		per bing		% of cost per bing	
	1755	1765	1755	1765	1755	1765
Bargains	£3,149	£637	18/9	26/1	65.7%	16.9%
Fathom w'k	403	1,459	2/5	59/8	8.5%	38.7%
Day work	483	831	2/11	34/-	10.1%	22.0%
Contingents	765	873	4/6	34/9	15.7%	22.4%
Total	£4,800	£3,800	28/7	154/6	100	100

N.B. In 1755, 3,379 bings were wrought; in 1765, 489 bings.

WEARDALE LEAD MINES.

ANNUAL PRODUCTION 1729-1860.

Notes:- The gap in 1777 is caused by the changes following the death of Sir Walter Blackett, that of 1792-4 by those following Sir Thomas Blackett's and that of 1834 by a change in book-keeping procedure.

The conversion from bings to tons is simple:-
2,000 bings equals 800 tons.

It is noteworthy that though actual production went up very steeply in the second half of the 18th century (particularly in the Weardale area), this increase was not apparently due to any significant degree to improved techniques. In contrast to the nearby coal industry, lead mining cannot claim to have had any important effect as a stimulant toward invention. Such advances as did take place were of a simple nature, such as the introduction of horses for underground haulage, or borrowed from the coal field after they had been proved there. Because of this, an abstract of working charges in the early 19th century shows few new types of work and could still be divided into the same basic headings of bargain work, fathom work, etc.

In forming an idea of the gross production it is necessary to remember that there were a large number of short-term fluctuations, some of which may be no more than faulty accounting, and others which may represent either geological or economic difficulties. The annual figures for Weardale, Allenheads, Coalcleugh and Alston Moor will be found in the Statistical tables but here it will only be worthwhile pointing to some of the more important and startling changes that occur.

Figure 1 gives in graph form the total production in Weardale for each year for which figures are available from 1729 to 1859. After a depression in the 1740s production rose at an unsteady rate in the '50s, falling steeply in 1760 and 1761. The most outstanding feature, however, is the meteoric rise in the period 1780 to 1800 when production went up from some 2,000 ~~tons~~ brings to over 17,000. After the turn of the century fluctuations become more severe conforming more exactly to the national cyclical patterns with a particularly long and severe depression in the

late 1830s and early '40s.

Table 2. Quinquennial averages of Lead Ore Production in Weardale 1730-1859

Period	Tons	Period	Tons	Period	Tons	Period	Tons
1730-34	928	1765-69	2,292	1800-04	5,592	1835-39	7,088
1735-39	1,052	1770-74	2,454	1805-09	5,523	1840-44	6,392
1740-44	558	1775-80	no figs.	1810-14	6,493	1845-49	7,721
1745-49	971	1780-84	3,017	1815-19	7,288	1850-54	8,500
1750-54	810	1785-89	4,467	1820-24	7,354	1855-59	6,922
1755-59	1,558	1790-94	6,128	1825-29	8,358		
1760-64	1,643	1794-99	6,784	1830-34	8,102		

(Based on Blackett-Beaumont Mss Quarterly Lead Mine account books and others)

It would be unwise to give any exact weighting to the importance of either economic or geological factors on the timing of these increases as can be seen more clearly when they are compared with other areas, and at this stage it can only be suggested that, with the exception of the depression of the early 1740s, the very early 1760s, late 70s and the first decade of the 19th century, when war-time restrictions to the market tended to produce a depressive effect, expansion occurred when veins were discovered and that the discovery of such new veins was as much a matter of chance as of a carefully planned investment drive. But on this point a clearer impression can be made only after the fluctuations in the price of the processed lead have been analysed in detail.

When we turn to the other two areas where the Blackett-Beaumonts were engaged in mining a rather different story of fluctuations in production appears. In the Allenheads area (The valley of the East Allen River), production in the early years for which figures have survived is at about the same level as in Weardale, being 832 tons p.a. in the period 1730-34, as compared with the 928 tons p.a. raised in Weardale.

After 1750, however, Allenheads declined sharply down to about 350 tons per year in the early 1760s and for the remainder of the century, unlike Weardale, did not show any spectacular increase. It is not until after 1810 that any large scale and permanent change occurs, with production averaging over 2,000 tons p.a. from 1810 till the later 1850s. There is no means of knowing for certain how far this was the result of deliberate policy on the part of the Beaumonts in shifting emphasis away from Weardale and Ecclesiastical Royalty owners, but it would seem that such would account for the heavy investment in the area which alone made the increased production possible. Table 3 gives the quinquennial averages of production from 1730-1849, where complete figures are available, and shows the alterations of a rather longer term than those shown in the graph figure 2, which gives the annual production(1)

Table 3. Quinquennial average production of Lead Ore at Allenheads 1730-1849

Period	Tons	Period	Tons	Period	Tons	Period	Tons
1730-34	832	1760-64	574	1790-94	1,147	1820-24	2,775
1735-39	877	1765-69	358	1795-99	1,235	1825-29	3,635
1740-44	600	1770-74	911	1800-04	1,103	1830-34	4,507
1745-49	528	1775-79	No figs.	1805-09	1,422	1835-39	4,548
1750-54	1,052	1780-84	842	1810-14	2,045	1840-44	3,968
1755-59	1,250	1785-89	1,146	1815-19	2,069	1845-49	3,298

(Based on the Blackett-Beaumont Mss. Account books, etc.)

At Coal Cleugh yet another pattern can be seen, for in this area, comprising the valley of the West Allen river, there is never a period of spectacular growth. In the first few years it produced an average of 814 tons per year (1730-4) which was about 30% of the total produced from the three areas together. Whether this was a temporary condition or

(1) See Appendix p.

merely a short phase, the lack of data for the period prior to 1729 does not allow us to say, but it is also noticeable that the cost per bing in the Coalcleugh area at that time was noticeably lower than in any of the other areas. From this position of relative importance it declined in the years after 1740 when its production fell sharply to below 100 tons in the year 1751. There was a ten fold increase between the low level of the 1750s and the 1780s, but thereafter though there are fluctuations of a large scale they are not sufficient to restore to the area the same comparative importance that it had once enjoyed and it soon became acknowledged as the least significant part, and production there never rose above an annual average of 2,800 tons in any five years between 1780 and when figures are no longer readily available in the 1860s. Table 4 gives these five-yearly averages while again a graph (figure 3) gives the annual figures on which the five yearly table is based. (1)

Table 4. Quinquennial average production of Lead Ore in Coal Cleugh 1730-1849

Period	Tons	Period	Tons	Period	Tons	Period	Tons
1730-34	814	1760-64	184	1790-94	2,408	1820-24	1,523
1735-39	595	1765-69	495	1795-99	2,163	1825-29	2,253
1740-44	315	1770-74	990	1800-04	1,452	1830-34	2,489
1745-49	145	1775-79	no figs.	1805-09	1,472	1835-39	2,688
1750-54	131	1780-84	2,190	1810-14	2,060	1840-44	2,011
1755-59	249	1785-89	2,737	1815-19	1,509	1845-49	1,848

(Based on Blackett-Beaumont Mss. Account Books, etc.)

The method of book-keeping, though giving details of costs as well as of production, does not usually strike any profit and loss balance based on the market value of the ore produced, so that it is not possible to give any continuous series of such balances and the only ones that I

(1) See Appendix p.

have been able to find to date are concerned only with the years 1792-3--4-5. In these the value of the ore is given at the Newcastle Market price for that commodity free from all carriage charges, and in tabular form the following is a summary of the figures for those years.

Year	Price per bing	Profit or Loss		
		Weardale	Allenheads	Coalcleugh
1792	75/-	£15,071 gain	£ 1,712 loss	£6,542 gain
1793	67/6	£21,648 gain	£ 2,837 loss	£3,539 gain
1794	55/-	£10,507 gain	£ 2,855 loss	£5,056 gain
1795	60/-	£13,125 gain	£ 3,459 loss	£6,222 gain

For the rest it is possible to give figures for the annual cost per bing in each of the three areas, but, as I have already indicated, the degree of variations is such that it is impossible to do more than suggest reasons for the short-term changes. If, however, we produce figures for ten yearly periods for each of the areas and compare them, the general trends in costs will become obvious.

Table 5. Decennial Average cost per bing (8 cwts.) in the three areas of the Blackett-Beaumont lead mining concerns 1730-1850. In Shillings.(1)

Period	Weardale	Allenheads	Coalcleugh
1730-39	36.2	24.3	22.0
1740-49	39.6	30.8	31.5
1750-59	47.5	29.0	55.3
1760-69	51.8	91.1	112.5
1770-79	50.2	55.2	52.8
1780-89	46.8	93.1	41.4
1790-99	42.7	77.4	44.7
1800-09	77.8	82.4	85.1
1810-19	77.1	71.8	83.7
1820-29	62.5	61.1	64.5
1830-39	(a) 52.9 (b) 41.3	38.1	43.3
1840-49	(a) 59.8 (b) 50.3	50.1	59.8

(1) The annual figures for cost per bing in the three areas will be found in both statistical and graph form in the appendix. There are a number of problems connected with the table above that are also discussed there.

This table shows the gradual increase in costs irrespective of area that took place in the 18th century, with the very sharp rise that took place in the first two decades of the 19th. It is interesting to note that by the 1830s costs had been reduced to the pre-war level in all areas. When we compare the three areas the first point to note is that in the early years the difference in costs between Weardale and the other areas is largely made up of the ecclesiastical rents payable on the relatively small output, while by the later years of the century the level of these rents had dropped to less than 2/- per bing from some 10/-. The change that then occurs after 1800 is brought out in the fact that even with the increased rents the costs in Weardale were no more than those in the other areas. For the last two decades I have separated the total cost (a) and the cost less the Bishop's and Rector's rent (b) which shows that except for this item costs by then were very similar in all the areas. The only other point that needs attention is that the periods of very high costs that occur in the Allenheads and Coalcleugh areas are largely the result of very low yields coupled with attempts to produce more that met with little immediate success. Before we leave production we will have a brief look at what happened in the other part for which there is information, Alston Moor.

Unfortunately, I have been unable to discover for Alston Moor a continuous record of total production for the whole period from 1735 to 1850. It may exist, but so far only the years to 1770 and from 1818 have come to my view. To compensate for this there exists for those periods not only information about production but also about the number of Mines active in the area and the labour force employed each quarter.

The normal year in Alston Moor for accounting Lead dues ran from Michaelmas to Michaelmas, so that when I refer to the year 1745, for example, it means the 12 months ending at Michaelmas 1745. In the earliest years for which records are complete, 1739, there were in the peak quarter (Ladyday to Midsummer) 41 mines in work, 29 mines unwrought,(1) 279 pickmen, 73 labourers, and 64 washers employed in working them and processing the ore. In the whole year, some 360 tons of ore were raised. Ten years later production had risen to 1,553 tons, and in the similar quarter of 1749 there were 43 mines in work with 495 pickmen, 102 labourers and 79 washers. In addition to these, there were 7 smiths and 40 carriers returned. Figures 4 and 5 give the annual production from 1739 to 1767 and the number of pickmen employed each Ladyday to Midsummer Quarter for the same period respectively. (2)

It is impossible to say how far this increase in production was a return to the level that had been reached under the Derwentwater family or a genuine new level giving employment to a greatly increased population, nor is there any evidence as to where the increased population came from if it was a new phenomenon. It is, however, certain that by the early 1760s Alston Moor was a very much larger producer than it had been. By 1759 the production had fallen to 1,179 tons but in the Ladyday quarter of that year the number of mines had risen to 73, employing 607 pickmen, 104 labourers, and 90 washers, and there were 20 smiths and no fewer than 120 carriers. By the first quarter of 1767 the total labour force had risen to 1,600, of whom 1,076 were pickmen while in 1765 production had exceeded 6,000 tons.

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(1) Pickmen refer to the actual getters of ore, labourers to men on day wages, and washers to those, often females and young people, who washed the ore clean. All the figures given on production and employment are based on Adm.66/105 ff. for the years up to 1767 and from Adm.7 9/56 for the years after 1818.

(2) See Appendix p.

What happened between 1767 and 1819 cannot be stated but thereafter we can again be certain. In the year ending Michaelmas 1819, 4,475 tons were raised by a peak labour force again in the Ladyday quarter of 766 pickmen assisted by 122 labourers and 366 washers. The year of greatest production, 1825, when over 7,200 tons of ore were raised did not however require any larger labour force than that which had been employed 60 years earlier. After that date, the decline in production and in the numbers employed is marked down to 1840, and though the figures cease in 1844 recovery by that date had been very slow. The annual production and the number of pickmen employed each year from Ladyday to Midsummer ~~was~~ given in graph form in figures 6 and 7, ~~which~~ show the extent of at least potential unemployment in the late 1830s.(1) Many of the miners, however, particularly those not employed by the large firms such as the Quaker Co., were also part-time small farmers who could hope to eke out the precarious income from lead mining with their farms. Nonetheless, there is little doubt that unemployment was rife and there is a lot of evidence to suggest that many of the Lead Miners provided a ready source of labour for the expanding coal trade of the North East in the 1830s, and that some also emigrated particularly to the U.S.A., leaving a trail of bad debts which are often the best guide to their departure.

From this study of the mining in the main areas of the Northern Pennines, certain points emerge. Of these, the most important is the great variability in both production and cost from year to year, and from one small area to another. The uncertainty is coupled with the surprisingly small amounts of capital that were required for the starting of a mine, contrasted to the £100,000 needed in the years 1800-08 to start

(1) See Appendix p.

the Killingworth colliery by the Grand Allies.(1) The problems of the Lead Mine owner were increased in times of monetary crisis by the lack of ready money to carry out the great annual pays,and in the middle of the 7 years war the pay had to be postponed through the inability of the Blackett agent to raise enough cash in Newcastle. An even greater problem arose in the 1790s; in 1793 Col.Beaumont had to bring down £13,000 in gold and £300 in silver in his coach with him to make up the required total, as the Newcastle bank could provide no more than £30,000, half in cash and half in notes. By the turn of the century sums of £70,000 and upwards were being required and it was increasingly difficult to get the miners to accept notes in lieu of gold. Nevertheless, with all its uncertainties and problems, there is little doubt that to the fortunate few lead mining was a source of great profit, and that even to the miners themselves, though precarious, it provided a sufficient if unhealthy livelihood. The almost complete absence of strikes in either Weardale or the Allendale area throughout the period is probably the best testimony to the good standard of labour relations that existed throughout the 18th and early 19th century. It was not in the form of lead ore, however, that the Blackett-Beaumonts, or, for a time, Greenwich Hospital sought to sell the produce of the mines and so it will now be best to turn to the processing side of the industry.

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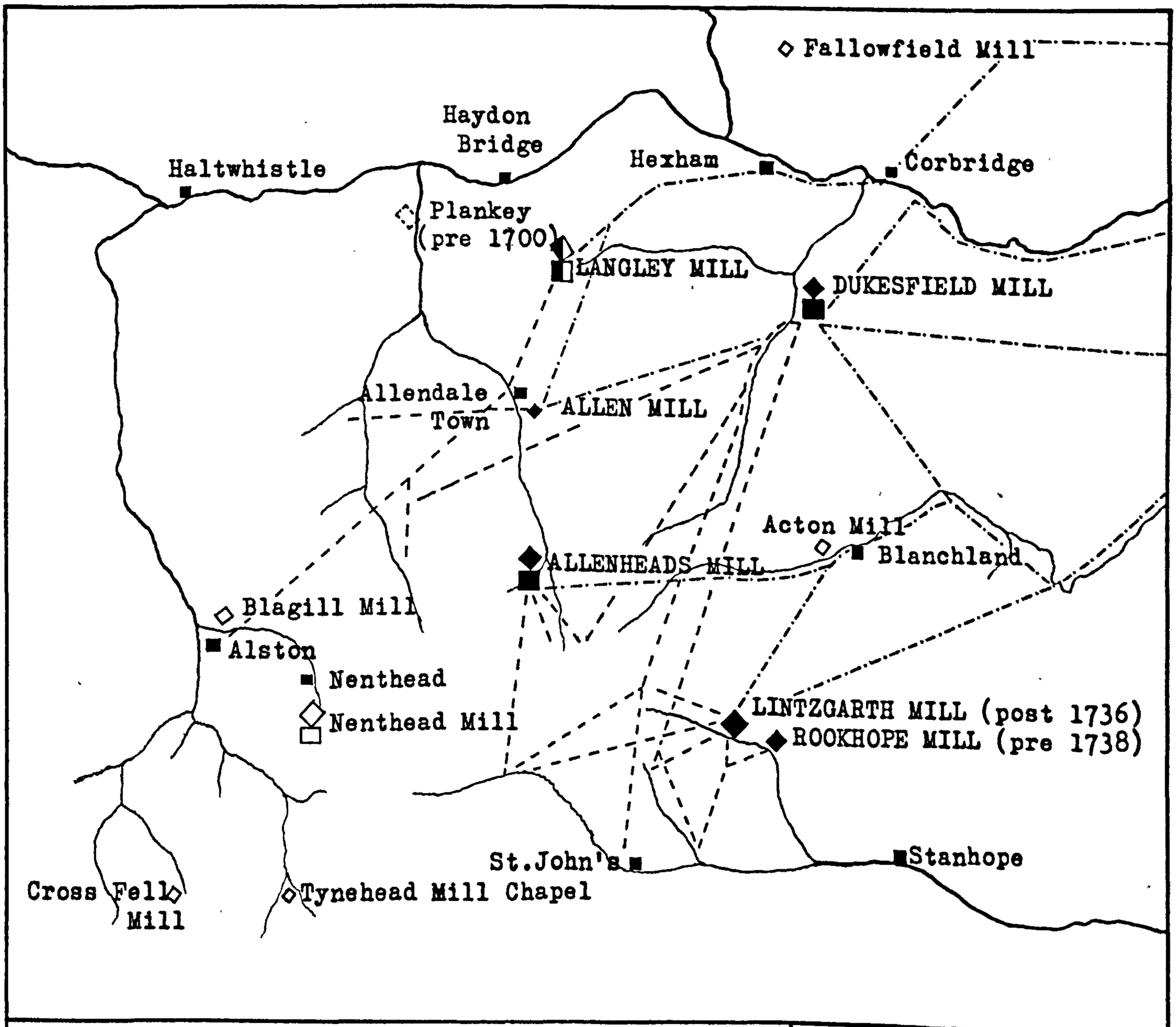
(1) Ravensworth Mss. at Eslington.

LEAD MILLS AND CARRIERS' WAYS.



KEY.

- ◇ Smelt Mill
- ◇□ Refinery and Smelt Mill.
- ◧ Greenwich Hospital
- ■ Blackett/Beaumont
- \- - - - Routes of ore supply to the mills
- -·-·-·- Routes of lead pieces from the mills to Blaydon and/or Newcastle.

Scale: One Quarter inch to One Mile.

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The Processing and Preparation of Lead Ore into Lead Pieces.

Within this section three aspects of the Lead industry will be considered, smelting, transport and silver refining. The reason for the grouping together of what might at first glance seem unconnected aspects is that the Blackett-Beaumonts for accounting purposes and administration grouped them so, and that these three together comprise the only other item of expenditure between the mines and sales.

The problem of transport in the coal industry in the Newcastle area had by the 18th century already stimulated the Civil Engineering skills that could produce in the waggon way most of the requirements of their lineal descendant, the Railway. The lead industry faced with the problem of carrying great weights though small bulk never followed the waggon way idea on any large scale. When in 1792 a Mr.Shelton who was connected with the Beaumont family near Wakefield suggested the possibility of a waggon way the Newcastle Agent, J.E.Blackett, wrote giving his opinion against such a plan.

Nov.8th, 1792.

'I observe what you say respecting a waggon way for the purpose of leading the lead down to Blaydon.... The laying of a waggon way from the several mills to Dukesfield and from thence to Blaydon and bringing the lead and ore by that conveyance considering the numberless difficulties I look upon it to be almost impracticable; and am at present inclined to think a waggon way from Dukesfield to Blaydon would be attended not only with great expense but with very great difficulties owing to the variety of property through which the way must necessarily go... The expense of wayleave and keeping the way in repair, these and other objections will ... act forcibly against the scheme.'

In fact, no waggon way was built and it was not until the railway lines to Stanhope and Alston were built in the mid 19th century that any change was made in the principal method of carrying both the ore and

the lead. This was the use of 'Galloways' (ponies) with the ore slung in panniers across their backs, each pannier holding approximately 1 cwt.[1] The rates per horse load were subject to whatever contract the various farmers and other owners of galloways were able to extract from either the Blacketts or the Receivers for Greenwich Hospital. As the tracks went regardless of contours by the shortest route from the mine to the respective mills it made the ways impassable for much of the year, and as in many cases the carriers were also tenant farmers on the estate of the Mill owners there was often some difficulty in preventing a clash of interests when harvesting and ore carrying both required attention at the same time. As we shall notice when we turn to look at rents, it soon becomes obvious that the rents payable by certain farms were not purely based on the agricultural value of the land but also contained an element of value from the carriage of lead ore to one or other of the major lead Mills.

The carriage of the lead pieces from the mills to the warehouse in or near Newcastle (in the case of the Blackett-Beaumonts at Blaydon) was organised on similar lines, much of the Weardale lead being carried down the Derwent valley and that from Allendale and Alston Moor along the Tyne valley from Corbridge eastward at least. To perform this there were a number of carriers who were in many ways in a similar position to the keelmen of the coal trade, being independent operators but in a weak position vis à vis their more powerful hirers. When in 1762 the normal

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(1) P.R.O. Adm. 79/16 Report of Visitation of 1775. Paragraph 40 'Ore carriers horses bring each of them one quarter of a bing or two pokes each for which their owners are paid 5/- to 6/- per bing according to the distance.

carriers who had carried the Weardale lead from the mill at Rookhope direct to Blaydon attempted to make more money by raising their rates the agent retaliated by changing the normal routine and reducing the amount of lead that there was for them to carry.

26th July 1762.

Joseph Richmond to Isaac Hunter (sen.)

'I am glad to find that the lead comes so fast away from Rookhope Mill at 8/4 per 10 pieces. I would have them proceed till they get the length of 10,000 pieces, only let me know as soon as you can whether the Dukesfield and other tenants are likely to pay their rents by this carriage. The bringing (of) so much Rookhope lead this new way and so much of the Weardale ore to Dukesfield Mill will, I hope, teach Mr.Parker and his confederates that they have not such a property in Rookhope lead as (they) imagine and that the higher they raise the price the less they will have to carry.'

Nor was price the only difficulty for the lead owner, though the price rose steeply in the last decade of the 18th and the first decade of the 19th century, for there seems to have been an endemic difference of opinion as to the urgency with which the lead should be carried. Many times the Newcastle agent had to urge greater activity on the part of the mill agent to spur the carriers into quicker action with letters such as these from Henry Richmond to Isaac Hunter (jun.) the mill agent.

11th May 1764.

'As the wainmen are determined to have 4/- per twelve pieces else they will engage in the wood or coal carriage ..... recommend to accept for with such a quantity of lead at the Mills we must not trifle away the time.'

8th July 1770.

'This practise of the carriers of getting lead into their own hands and then taking their own time of bringing it in must be broke through. I desire you will do this without loss of time as I am in great want of lead.'

The simplest method of dealing with wayward carriers was to call upon the tenantry who were not in such a position to bargain. In 1770, without any prior warning, the tenantry of Greenwich Hospital land in

the Corbridge and Whittle area were called upon to take up the carriage of lead from the new mill at Langley without question.

9th July 1770

Nicholas Walton to Christopher Bell (Bailiff of the Hospital's Estates near Hexham and Corbridge).

'After having considered the carriage of lead from Langley Mill to Newcastle, we find it absolutely necessary that the Hospital's tenants above mentioned (here the names of eight tenants are given) should among them furnish eight carts for the carriage of lead. ... You will inform them that they must immediately prepare themselves with what is necessary upon the occasion and begin to carry at once.'

Despite all such efforts the cost of carriage went up steeply in the second half of the 18th century, for example the Rookhope Mill to Blaydon cost went from 8/4d per ten pieces in 1762 to 13/1 per ten pieces by 1797, while the prices for other journeys went up in a similar way. Unfortunately it is virtually impossible to compare carriage rates exactly as the accounts for the various mills are not preserved and only overall figures remain, and, even more difficult, the size of the pieces is extremely variable, and what accounts have survived fail to state whether they refer to 12st, 11st, 9st or 8st pieces. Nevertheless, there is no doubt that carriage of ore and lead represented by far the largest factor in costs of processing. In the six months ending in October 1769 (when admittedly the bulk of the carrying would be done for the whole year) Greenwich Hospital paid £1,278 on the carriage of ore from Alston Moor to Langley Mill, and £336 for the carriage of lead thence to Newcastle. This compares with some £120 paid for the actual smelting and refining of lead ore in the same period. It was calculated that on the Allendale lead alone the Beaumont's would save £1,500 p.a. when the

railway was brought to Haydon Bridge in the 1830s. As the cost of this carriage is included in the total mill charge by the Blackett-Beaumont families I will leave it at this point until I have dealt in some more detail with the Mills themselves.

Greenwich Hospital ran one mill and refinery combined at Langley which they built in the late 1760s, while the Blackett-Beaumonts kept three in more or less permanent use throughout the period until the closing of Dukesfield in 1834. These were Rookhope in Weardale which smelted most of the Weardale ore but had no refinery attached, Dukesfield which dealt with the rest of the Weardale ore and part of the Allenheads and Coalcleugh ore and to which a refinery was added in 1765, and Allenheads, a small mill in the early years, expanded in the 1790s and at that time given a refinery. In addition to these three mills there was the main refinery and warehouse at Blaydon on the Tyne.

The art of the smelter was ~~already~~ one of great complexity and the reputation of a good smelter was an asset that few concerns were ready to part with except at great profit. Already by the beginning of the 18th century experiments were being carried out in the area on the relative merits of coal, peat and wood as fuels, and iron and stone as hearth materials. Quite by chance there have survived the record of just such an experiment undertaken at Fallowfield by the senior branch of the Blackett family who had some lead mines there. By the first of these it was found that though the yield was slightly higher with wood it was more economical to use coal. The second I give in the form it occurs on the fly-leaf of a contemporary account book.

'April 22nd 1702. A tryall (sic) then made by my Lord Wharton's smelters viz. Thos.Cherry and Cornelius Fryer of eighteen bings of ore at Fallowfield.

6 bings smelted with three loads of coales(sic) made 14 pieces of lead quantitie(sic)	on the iron hearth 21 cwts.	1	8
6 bings smelted with four loads of coales made 19½ pieces of lead quantitie	on a stone hearth stone 29 cwts.	1	-
6 bings smelted with nine sacks of wood made 19½ pieces of lead quantitie	on the stone work stone 29 cwts.	1	-

The last 12 bings of oar (sic) smelted upon the stone worke stone made 39 pieces quantitie 58 cwts. 2 qrts. which does only take 4 bings one horse and about 7 stone of oar to a fother accounting 14 pieces to the fother.'

One of the greatest difficulties for the other lead mills was the problem of fuel and most of them had to rely to a greater or lesser extent on peat stored during the summer months to supplement the supply of coal from local collieries.

When in 1774 the Greenwich Hospital Estates were subjected to an official Visitation the visitors paid particular attention to Langley Mill and their description is well worth giving in extenso.(1)

'Wednesday 17th August.

This mill with the several conveniences and machinery belonging to it was finished about seven years ago, under the directions of the present receivers upon an excellent plan, as it appears to us, and in a handsome substantial manner. The smelting house contains four hearths, three for ore and one for slags. The refinery which is a building detached at a small distance, contains a refining and reducing furnace.... Besides which there is an office for the Mill Agent, a smith's shop, and ample provisions of peat houses, bing steads for holding the various ores etc.

The principal supply of water for the use of this Mill is from the level of Cragshield colliery, about ¾ of a mile off - which has as we have been informed this advantage that it has not yet been known to freeze (even in the hardest of frosts) before it gets to the mill or even for some space afterwards; whereas the contrary happens at other lead mills in this part of the country which are frequently stopped working in the winter for a considerable time on that account.

We saw the different operations of smelting both the ore and the slag, refining and reducing the litharge into lead again, and making what they call the test, which is an oblong shallow vessel, composed of a certain proportion of bone and fern ashes in which the lead is run in order to its being refined. Ashes are used on account of their

(1) P.R.O. Adm. 79/16.

unvitrificable quality resisting in a wonderful manner the extreme heat of the reverberatory fernace. ....

A cake of pure silver was taken off whilst we were present, weighing more than 1,300 ounces, being the largest by upwards of one sixth part of any that had been produced at this mill before. It was the produce of 2,667 pigs of lead, whose weight was 2,671 cwt.2 qrs.15 lbs. These pigs had by a previous operation of the same kind been so far refined as to be brought down to 22 pigs only. The produce of silver upon this occasion was about 11 ozs. for every fodder of lead, the loss of which latter by refining and reducing is reckoned upon an average about one fifth part.

The workmen who are employed in smelting etc. are paid by weight as under:-

	£.	s.	d.	
Smelters of refinable ore		6.	0	per fodder
Smelters of slags		12.	0	per fodder
Smelters of litharge, black slags, and test bottom lead	1.	8.	0	per fodder
Persons for stamping and washing black slags	7.	0.	0	per fodder
Persons smelting lead from black slags		3.	0	per fodder
Refiners		2.	10	
Reducers		1.	6	
Reducers for weighing			2	

Visitation of 1744, August 17th, continued:

'Two smelters at the one hearth will smelt about 17 pigs of 1 cwt. each and sometimes more if the ore is free, in about 12 hours. Three refiners can refine about three fodders, which is as much as one test can conveniently hold, in about 22 hours; but then nearly one third part of that time is taken up to prepare for working by heating the furnace and gently drying the test. Three reducers can reduce about two and one third fodders in twelve hours. As to what may be earned at the slag hearth, by stamping and washing the black slags, smelting litharge slags, etc., we were not able to learn with any precision, but as the prices allowed per fodder are so much more than the others it must necessarily follow that the operations of producing the same quantity of lead must be proportionably more tedious.'

It is not necessary to go into great ~~deal~~ *detail* over the various processes here described more than referring to the glossary of lead Industry terms that was given at the beginning of this section (p. 41).

The cost of erecting a smelt mill with all the necessary appurtenances can be judged from two examples, though obviously it would vary with

both time, availability of materials, and size. Between February 1737 and March 1738 George Liddell and partners spent £325 on building a smelt mill and £272 on a refinery [1] though it is not certain that these figures represent the total cost. For Langley Mill there are more detailed records, starting with a computation of the cost in June 1766[2]

•Smelting House 86' x 31' x 10' including foundations, slate covered		£235. 5.11½
Water Wheel and other machinery including bellows, and iron for hearths		270. 4. 6
Refinery, 24' x 23' x 10' slated and including furnaces and machinery		110.16. 4
House for Bone Ashes and making Test, 12' x 9' x 5'		8. 8. 2
		624.14.11½
Office, 15' x 12' x 9'	£24. 6.10	
Smithy, 15' x 15' x 9'	38. 9. 6	
Lime House, 15' x 15' x 14'	31. 9. 0	
Peat House 68' x 15' x 14'	94.19. 8	
	£189. 5. 0	189. 5. 0
		£813.19.11½

On the basis of these estimates it was resolved to go ahead with the building of a mill near Langley Castle. Before it was completed, however, the cost had reached almost double the computation of 1766. By the end of 1768, over £1,500 had been spent on the various buildings and equipment required. Even two years later there was still building going on as this

(1) P.R.O. Adm.66/105 Account of Money spent by Geo.Liddell.

(2) P.R.O. Adm.66/110; 14th June 1766 Letter from Walton & Smeaton to the Secretary of Greenwich Hospital.

letter of 23rd April 1770 from the receivers to the Lead agent shows.[1]

> 'Pray inform Willy Laybourne that he is to set forward with two cottages at Langley Mill housing immediately. They are to be built at the south end of the present row of cottages and one above the other, that is, two rooms under one roof and a stone staircase must be fixed on the outside to get into the upper room. The size of each (inside) to be 18' x 15'.'

But despite this great expense in excess of the original estimate the Mill soon was paying its way. Unfortunately there is little information on the numbers employed or the amount of lead ore that was smelted there, but in early 1767 when the whole question of whether or not to go into the smelting business was discussed it was calculated that: "When got full to work it will employ 12 smelters at three hearths, two men at the slag hearth, two refiners and one mill agent", and there is little doubt that this number represented only the skilled men.

Unfortunately I have found no information about the actual quantities of ore smelted each year or the cost of smelting at this mill except for the first few years when between 2700 and 4200 bings were sent there from Alston Moor each year from 1768 to 1773. Nor is it made clear on what basis figures of profit are made. Among the Greenwich Hospital papers in the P.R.O. there are two tantalising letters on this, one of the first of August 1789 and the other of January 1815.

In August 1789 the receivers sent to the secretary of the Hospital this letter with enclosures which no longer accompany it and without which much of its meaning is lost.[2]

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(1) P.R.O. Adm.66/96 Lead Letters dated 23rd April 1770.

(2) P.R.O. Adm.66/79 Letters from the Receivers to Greenwich Hospital 1788-1831. A collection of miscellaneous letters that are obviously not more than a few random survivors of a much larger body of correspondence.

10th August 1789:

'You receive herewith Langley Lead Mill account for the last year by which it appears that there has been a profit of £925.16. 8½ by the undertaking between 26th April 1788 and 26th April 1789. We also send you a general account of the undertaking from the outset to the 25th April 1789 inclusive which shews that the profit in twenty-one years amounts to £24,777.19. 9, being £1,179.18. 1 per annum.'

In the second letter of January 1815 again reference is made to the annual profit and to the total profit made by the mill in the 46 years since it started in July 1768(1). In neither case is the actual account still attached to the letter so it is impossible to be certain on what the profit is based. In the absence of such information it is hardly safe to do more than suggest that it was calculated on the difference in value between the ore and the processed lead from which sum the cost of the mill and carriage was deducted.

A similar curiosity of accounting procedure is found in the Blackett/ Beaumont mill affairs in which, as already stated, the cost of processing is mixed up in the carriage expenses. An indication of doubtful value is contained in a letter of 1743 when the authorities of Greenwich Hospital considered the possibility of smelting some of their duty ore in the Alston area and a calculation of the cost of producing a fodder of lead (21 cwts.) was made for them by Nicholas Walton sen.(2)

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(1) Adm. 65/79 letter of 28th January 1815 "The total gain by Langley Lead Mills from July 1768 to the 30th April 1813 was £62,997.12. 8¾, which for the 46 years works as an average of £1,369.10. 3¼".

(2) P.R.O. Adm. 66/106, p.263.

'15th Sept. 1743

Charge of smelting a fodder of lead	
5 bings of ore at 38/- per bing	£9.10. 0
Leading to smelt mill	3. 4
Smelters' wages	11. 0
Liberty of using a mill and utensils	5. 0
Carriage from Mill to refinery	16. 9
Refining and reducing	13. 8
Washing at Mill	5. 0
? Inspecting	2. 6
	£12. 7. 3

Unfortunately this calculation cannot be used even as a rough guide for either any other mill or any other date as an indication of the relative costs of smelting and carriage as compared with the initial cost of the ore. For the mills of the Blackett-Beaumont concern there is none the less a wealth of information from 1729 onwards. All the statistical information regarding the production of these mills is contained in the appendix and here I will do no more than point out some of the more important points.

Although there are virtually complete figures for the yield of lead from the ore during the period 1729-1800 almost no long-term trend can be discerned in them. Such fluctuations as do occur can probably be accounted for either by imperfectly washed ore or inefficient smelting, and on these the agents were frequently to check. As an example, in 1767 Henry Richmond wrote to the head mill agent thus:-

30th June 1767 to Isaac Hunter :

'The produce of the ores smelted at Dukesfield and Rookhope Mills, especially the latter, has been so very bad the last year that it requires examination and therefore I desire you will enquire and let me know the reason why it has taken 4.45 bings at Dukesfield and 4.91 bings at Rookhope to make a fodder of 21 cwts. The ore must either come very badly washed from the groves or must be mismanaged at the mills to make the produce so much worse last year than usual. As to Allenheads Mill the produce there seems to be much better than usual, and to be about 4 bings per fodder, if

> I understand Mr.Crawhall's accounts; but he never mentions the quantity of ore smelted in the 12 months and how much lead is made from it at the various hearths, but stuffs his accounts with nice and useless particulars of ore-tails, hearth-ends, etc.'

Six years earlier the mill agent of Allenheads was dismissed because he had required nearly 6 bings per fodder "which can be occasioned only by his mismanagement, considering the quality of ore sent last year to Allenheads". The problem of smelting inefficiency was on the whole easily overcome by careful selection, but dirty ore remained a constant source of trouble even after the turn of the century. In 1801 J.E.Blackett wrote to Col.Beaumont on this subject:

8th June 1801:

> 'I have frequently made complaint of the very foul state of the ore sent to the lead mills and have cautioned the several agents about it, and am sorry to find that there is not any improvement in that respect for the washers are such a parcel of rascals that they will cheat you unless they are very narrowly watched.'

The only answer to this difficulty was constant superintendence which was difficult to achieve, and remained an ideal rather than a practicable solution until the middle years of the nineteenth century when larger washing floors nearer the mills made it more practicable. Although yields of smelted lead from ore changed little during the course of the 18th century, attention was paid to any means for improving them. The sons of mill agents were sent to Edinburgh University to read chemistry at the expense of the owners, whether Blacketts or Greenwich Hospital. Assays were constantly made of the ore and samples sent away to be analysed to London, Edinburgh and even Amsterdam. It was not until the early years of the 19th century that any major advance seems to have taken place in the Blackett-Beaumont mills when a series of experiments were carried out on the advantages of roasting the ore prior to smelting. In one of the

experiments at Dukesfield it was found that by roasting 12 tons of ore before smelting and then smelting both that and 12 tons of unroasted ore, the roasted produced 8 tons 1 cwt. as compared with 7 tons 14 cwts., and though the extra expense of roasting that quantity came to £3. 1. 3½ it still left a net profit of nearly £9.10. 0.[1] At Allenheads the results were even more favourable, increasing the yield by nearly 10 cwts. over the unroasted yield of 7½ tons, and leaving a net profit of £13.12. 8½d, which was nearly 9/1d per bing. As a result of these experiments, roasting became the general practice at all the mills but unfortunately there are no figures surviving from which the increased yields can be shown for the whole concern.

At the same time another improvement was started by the construction of horizontal chimneys at both the Beaumont and Greenwich Mills. There had been some difficulty at Langley Mill with the poisonous fumes from the furnaces killing the stock of nearby farms. In 1779 various tenants of Greenwich Hospital farms near the Mill put in claims for losses of stock from smoke,[2] and from these it appeared that in the previous ten years at the Langley Castle Farm 8 ore carrying galloways valued at £4 each, 5 other horses, and 3 cows, to a total value of £83.12. 0d, died, and 'likewise three horses he has at present which he fears will die; likewise a considerable loss of sheep yearly - one year 40 ewes lambed dead lambs'. From other farms in the neighbourhood a similar claim was received and allowed to a total compensation paid of over £175. The

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(1) Full details of these experiments are in the Blackett-Beaumont Mss. Reports Volume I.

(2) P.R.O. Adm.66/96 'Applications of losses by smoke, November 1779.

horizontal chimney was an answer to this difficulty but also something more. In carrying the fumes for over quarter of a mile away from the mill, particles of lead in the smoke settled on the floor of the chimney and could then be smelted and refined when suitable. The horizontal chimney at Langley Mill was started in 1801 and completed by early 1803 at a total cost of £871, and by January 1804 the receivers were able to write to the Hospital authorities: (1)

> 'There has been a profit of nearly £227 from the horizontal chimneys at Langley Mill in the course of last year, and that the lead which proved refinable produced 95¾ ounces of silver; the whole of which lead and silver would have been blown away but for the erecting of the chimneys.'

The high price of lead in these years no doubt stimulated these improvements and other minor alterations such as the separation of the ores from the various mines into different bing steads, but unfortunately neither for the Beaumont nor Greenwich Hospital are there any figures which can be used to give the effects of such improvements.

From the Blackett-Beaumont papers it also becomes clear that the mills were rarely constantly at work throughout the year. Some of the stoppages were intended to allow for maintenance work or prevent too great a stock of smelted lead standing at the mills; but many were of an accidental nature. In times of frost, as suggested in the description of Langley Mill, work virtually stopped and because of their situation it would be likely that in January and February at least such stoppages would be very common. The lack of fuel, both peat and coal, also caused stoppages, as there was only a restricted part of the year during which such fuel could be carried to the mills, and if the weather was unsuitable then supplies ran

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(1) P.R.O. Adm. 65/79 letter of January 6th, 1804.

short. A similar problem of transport affected the supply of ore to the mills and in the annual stock-taking at the various mills, occasions can clearly be seen where the stock on January 1st was inadequate to provide full-time employment till the ore carriage started again in the early summer.(1)

As an example of the variations of stock on hand on January 1st, and the quantity of ore received and lead smelted at a mill, I extract from the appendix the figures for Dukesfield Mill for the 1750s.

Table 6. Lead Mill at Dukesfield, 1750-1759.

Year	Stock on hand Jan.1st.	Bings of ore received	Net number of bings smelted	Pieces of lead produced
1750	38	1,807	1,809	6,599
51	36	2,191	2,097	7,003
52	130	2,603	2,055	7,460
53	678	2,086	2,553	9,200
54	211	3,040	2,213	7,637
1755	1,038	3,483	3,053	10,139
56	1,468	2,812	2,642	8,821
57	1,738	2,790	3,114	10,182
58	1,414	3,433	3,474	11,712
59	1,373	2,485	3,531	11,611

(Based on Blackett-Beaumont Ledgers and account books).

In the latter part of the century an expansion in the milling capacity took place to deal with the greatly increased production of ore and by early in the 19th century the mills of the Beaumont concern were capable of smelting 100,000 pieces of lead per annum if the ore was forthcoming. With the exception of Allen Mill, which was taken over from

(1) Henry Richmond to Isaac Hunter 1770: 'This wet season will not allow you to get peats for Rookhope Mill, so we shall have a great stock of ore, there.' In 1832 it was calculated that four months supply of ore had to be on hand at the end of December to keep the mills in work till the ore started moving again.

lessees in 1795 most of this expansion was the result of simply adding more hearths to the mill and reducing the periods of inactivity by building larger steads for both ore and fuel. To provide the basic power for the bellows, water wheels remained the normal method and their efficiency was improved by converting to overshot wheels on the pattern used by Smeaton at Langley Smelt Mill and many of the corn mills on the Greenwich Hospital estate.

With the increase in size the position of the mill agent became more responsible and his salary was increased accordingly, and competition between the various owners for the services of highly qualified mill agents produced an additional reason for higher salaries. Into the hands of such an agent all the supervision of both the technical and the administrative functions at the mill were placed and by 1805 the salary of the Greenwich Hospital agent at Langley Mill was £130 p.a., which is more than many agents concerned with agricultural estates in the area of 10,000 areas were getting at that time. For the smelters wages were tied to production and presented a more difficult problem.

The smelters paid throughout the period according to lead produced were on the whole able to make good wages though it is worth noting that the length of service seems to have been very short, few names recurring for more than 15 years. In spite of this high mortality, due no doubt to lead poisoning, the smelter remained the élite of the lead mining community and provided the leaders in what little unrest there was among the mining folk. In 1809, however, there was a more serious strike at Rookhope and the report sent to Col.Beaumont of this is a typical example of the labour relations that existed in that concern. In all the strikes

that occurred it would seem that an inability to make a working wage lay at the root of the trouble and that the reasonableness of many of the claims was usually admitted and met. The highest praise that can be given for the labour relations between the owners and their lead workers is the simple fact that in over 100 years less than 100 days were lost through strikes of either miners or smelters and the like, and this cannot be put down to the one-sided nature of any conflict. Before I quote the report of 1809 it is worth while giving a letter of 1795 in which details of an earlier strike are given.

23rd Nov.1795 John Erasmus Blackett to Col.Beaumont.

> 'Notwhithstanding what you have done towards the relief of the miners and smelters during the time of high price of corn (which example neither the Lead Co. nor any other proprietor have followed) (the Blacketts had bought Baltic corn in Riga and shipped it at their own expense to Newcastle and thence to the mining areas and sold it at cost price) the miners and smelters of your works stopt the works and some of them (I believe from Rookhope) committed some depredations by seizing a cart with flour and oatmeal, which they disposed of at their own price... They requested that their wages may be raised and their subsistence money every two months doubled.... I thought it advisable at <u>this time</u> to increase their subsistence money one half, to continue the supply of corn at a reduced price. The miners left me very satisfied.'

The affair of 1809 concerned the smelters only at Rookhope Mill, and John Mulcaster reported on the cause of the trouble and his actions thus:

20th October 1809.

> 'The smelters at Rookhope Mill on the 11th September left off their work alleging as a reason that they could not make sufficient wages to keep their families, from the ore being so very bad; and that they would not go to their work again unless their wages were advanced to 10/- per fodder for every kind of ore. I wrote Mr.Smith that I was not sorry his smelters had left their work as I believed they had some very bad ones amongst them, and was glad of an opportunity of selecting the best and supplying the deficiencies with better workmen, and that none of them should be set to work till I saw him.

I went to Dukesfield and selected 12 of the smelters there (Dukesfield Mill being then off work for want of the Dam) and ordered them to make a trial of the same ore the others had left off working to ascertain whether it was the quality of the ore, or want of skill of the Rookhope smelters that caused the deficiency of their produce and wages. The difference of produce was considerably in favour of the Dukesfield men,but there certainly was great cause of complaint in the quality of the ore. When the Rookhope men found there was some danger of losing their employment they were desirous of being set to work again requesting the cause of their complaint might be examined into.

I find they have earned upon an average this year about 10/9 each per week, but being over many men at each hearth is part of the cause - the wages divided among the proper number would be about 14/6 for each man. There is now the proper compliment of four men to each hearth. The smelters earnings at Dukesfield have been about 9/8d each per week, but there they have also over many; the proper number would have earned about 13/6 per week. When Allen Mill is enlarged we will remove part of the superfluous men from Dukesfield there. At Allen Mill the smelters having constant work and not over many men earn about 14/6 each per week. At the present price of the necessaries of life and considering the wages paid to common labourers I think it would be advisable to allow the smelters a small advance - I would therefore recommend that they be paid at each mill 8/- per fodder for the bouse ore and 9/4 per fodder for the cutting ore, which will make them earn from 16/- to 17/- per week.'

This report illustrates the problems of the wage structure at the mills and the essentially fair approach of the agent to any legitimate complaints, and it only needed the agreement of the owner to provide a very workable method of dealing with any such problems; and it was normally the practice of both the Blackett and the Beaumont families to agree with the suggestions of their agents on such questions.

Before I turn to the production of silver there remains only some notice to be taken of the total cost of processing in the Blackett-Beaumont concern. As I have stated above, the Mill charge included not only the actual cost of smelting but also the carriage charges. In the 1730s the average mill charge for all the mills combined came to rather less than £3,000 p.a. as compared with the total mine charge of between £8,000 and

£10,000. At the end of the century the cost of mining had risen to nearly £50,000 per annum between 1795 and 1800 while the mill charge was about £15,000. At the height of the war the figures were (for the year ending September 1810) £115,000 for the mines and £23,000 for the mills. Thereafter there was a fall in costs but by and large the ratio of mining to mill costs remained at between 3 and 4 to 1. At no time does the cost of processing seem to have exerted any pressure on reduction in the total production, and even the costs of carriage,though heavy,never were such as to restrict production.

The major by-product of lead mining was undoubtedly the refining of silver, which was found in varying quantities in the lead ore deposits. On the whole, the Northern Pennine area was not one in which the silver content was high and yields which would have been commonplace in Wales were noteworthy up here. In 1781 a vein was discovered at Newbigin in Hexhamshire and the chief Blackett agent wrote:

> 8th December 1781 to Isaac Hunter:
>
> 'I am informed that the grove discovered at Newbigin is very promising - that they have already raised a pretty large quantity of ore which though not rich in lead yet the lead yields 27 ounces of silver per fodder.'

This was about 2½ times the normal rate of silver content which was thought worth refining. On the whole somewhere in the region of 10 ounces per ton was the normal rate at which silver was extracted. Not all of the lead produced carried silver and at least from the middle of the 18th century each vein of the Blackett-Beaumont concern was subjected to assay to discover the quantity of silver it contained, and such assays were repeated at least every year and more frequently if any alteration in yield seemed to warrant it.

The decision to extract the silver was taken simply on economic grounds; for in the refining process a proportion of lead was lost (normally called waste) and if the loss through this and the cost of refining was greater than the income that could be gained from the sale of the silver then no refining took place. For this reason the use of figures for the quantity of silver produced cannot be a guide of any value to the quantity of lead produced. A risk had also to be taken that the price of lead would not drop between the time when it could have been sold prior to refining and when it had once more been reduced back to lead after the silver had been extracted, though it would seem that any loss on this score was cancelled out by a corresponding gain another year.

For Greenwich Hospital a refinery was attached to Langley Mill from the beginning and the silver produced there and transported to Newcastle under guard before shipment to London. The Blacketts had their principal refinery at Blaydon where all their lead was brought in any case for sale, and from where both lead and silver could be carried directly by keel to ships lower down the Tyne. In the mid 1760 this refinery became insufficient and the Mill at Dukesfield had a refinery attached to it, and finally in 1795 a refinery was started at Allen Mill. For each of the refineries of the Blackett-Beaumonts yearly accounts have survived for the period from 1729 to the end of the century in which details are given of the quantities of lead refined and silver produced, and also the profit made each year. The profit is calculated on the value of the silver produced, from which the cost of labour and materials and the value of the lead lost through refining are deducted; after that an adjustment is made to take into account any alteration in the value of the lead

between being sent to the refinery and its sale after returning therefrom. (1) In the account books that have survived among the lead papers in the King's College library, little detail is given other than these, but among the agricultural estate papers that remained in the Estate Office at Bywell two series of more detailed accounts have survived for the refineries at Blaydon and Dukesfield for the years 1792-3-4-5, and I give as an example of the sort of costs involved the balance sheet for Blaydon Refinery for the year 1795.

Blaydon Refinery 1795.

Dr.

For the charge of the Refinery this year, as per quarterly accounts	£624. 3. 7
For 1,537 cwts. lead lost in Refinery which would have sold for £16¼ per fodder	1,207.17. 9
For so much bone ashes have cost	200. 6. 9
For ditto. the litharge casks have cost	263.19. 0
For ditto. for coals this year	53.13. 0
For ditto. paid for iron	4. 1. 4½
For profit of the Refinery this year	2,062.15.10½
	£4,416.17. 4

Cr.

By 10,981 ounces of fine silver which has sold for	3,112.19.10
By the increase value of 1,044 fodders of refined lead @ 5/-	261. 0. 0
By the increase value of 12,055 cwts. litharge @ 1/6 per cwt.	904. 2. 6
By so much the litharge slags and Test bottoms are computed to be worth	138.15. 0
	£4,416.17. 4

It is a curious thing that the profit on silver refining seems to be

(1) All these figures will be found in the appendix (p.). It is worth noting that the figures in these do not coincide with those found at Bywell as the one series refers to years running from September to September and the Bywell ones to calendar years.

only slightly connected with the selling price of silver itself and much more with that of lead and litharge, but because only that lead had the silver extracted which could be expected to make a profit the Refinery rarely showed a loss. Apart from the loss of lead the only other item of expense was the wages included in the quarterly accounts and which being for the most part tied to a piece rate made any loss through that virtually impossible. In the few cases where losses are recorded there would seem to be two factors contributing to it: the first, the lack of skill of the refiners in losing an unnecessarily large quantity of ore, which was corrected by the removal of the chief refiner from Dukesfield in 1806, and the closing of the Refinery there; and the second when a very sudden drop in the market price of lead meant that 6/- per fodder was charged against the Refinery for lead in its hands when the market broke.

Though the refining of silver was calculated to be a profitable activity, circumstances arose in 1802 that made this no longer the case, and in November of that year J.E.Blackett wrote to Mrs.Beaumont:

> 'Refined lead is at present scarce, the high price of lead, the reduced price of silver and the poorness of the ore in silver occasions the refining at present (being) a loosing (sic) trade; if it was not on account of the litharge trade, which must not be dropt, you must have given up refining for a time.'

Thus the production of silver was looked upon not only as an end in itself but as a means, albeit profitable, of providing the market with both refined lead and litharge. Far in fact from being a source of profit in itself and nothing more, the refining business was looked on as necessary to preserve the balance in the market between refined and

unrefined lead and supply the litharge needed in the paint industry.

In the early years for which we have evidence, the production of silver, like that of lead itself, was fairly small being about 5,000 ounces in the 1730s from the whole of the Blackett lead mines. The second half of the century saw a great increase in the silver production with the setting up of new refineries at Dukesfield and Allen Mill to deal with the Blackett-Beaumont lead and the refinery at Langley Mill for the Greenwich Hospital's dues from Alston Moor. The rise in production can best be shown by a table in which the production in certain random years at the refineries is given.

Table 7. Silver production by Greenwich Hospital and the Blackett-Beaumont family 1750-1810 (In ounces of fine Silver).

Year	Langley	Blaydon	Dukesfield	Allen	Total Blackett
1750	nil	2,615	nil	nil	2,615
1760	nil	3,969	nil	nil	3,969
1770	5,549	4,986	3,269	nil	8,255
1775	8,161½	5,891	3,720	nil	9,611
1780	8,624	9,281½	5,067	nil	14,348½
1785	5,934	11,119½	7,740½	nil	18,860
1790	6,186½	12,343	8,213	nil	20,860
1795	10,642	11,531½	7,170	nil	18,701½
1800	5,401	9,728½	5,102	4,631	19,561½
1805	9,172½	9,982	1,930½	4,970	16,882½
1810	5,417½	10,441	nil	7,476	17,917

The method of selling silver used by the Blackett family and their successors was extremely simple. The whole of their produce was sent to a London goldsmith company (for many years in the middle of the 18th century Plumb & Brown), at the price that obtained in London on the day of the arrival of the cake of silver. The agent in Newcastle did no more than advise the sending of it. The simplicity of this method had its reward in that in over fifty years for which the correspondence has survived there is no mention of a piece being lost in transit and

only one where a difference arose over the weight which turned out to be a slip on the part of a clerk at Blaydon. When the Langley Refinery started production a similar policy was pursued, but in this case a small dispute arose fairly early over the difference in price between Newcastle and London. From a letter of March 1774 it becomes clear that in the first few years after 1768 the London price was 'almost universally' in excess of that in Newcastle but that for some reason after late 1772 the opposite became the case.(1) Why this should be the case it is difficult to be certain as no reason is given in the contemporary correspondence and there are many possible explanations which might be correct or not. Of these possible explanations two that come to mind most readily are: a falling in the demand in London for supplying the East Indian trade after the burst of heavy capital exporting 1768-72,(2) and a heavy demand in the North-East for capital development, particularly in coal mining.

From 1729 to 1809 the figures for the prices received for all the pieces of silver sold from Blaydon have survived in the Blackett-Beaumont Mss, and as there were in the later part of the century at least an average of two sales per week these figures give a pretty complete series. In so far as during the whole of the 18th century the currency of this country was based on silver, the nominal price of that commodity per fine ounce ought to have been 5/2 but the pressure for bullion, foreign exchange, and clipping all tended to make this figure no more than a theoretical one. Whether or not these figures for the Blaydon silver are the only series, I do not know, though I have searched in vain for

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(1) P.R.O. Adm.66/96 letter of March 4th, 1774.

(2) T.S.Ashton 'An Economic History of England: the 18th century',p.193.

any published figures,[1] but in any case they are of interest and importance in their own right. It cannot be imagined that the quantity sold from this source to the London market represented any large part of that market so that the figures follow the market and are unable to exert much influence on prices controlled primarily by foreign exchange demands on a market supplied predominantly by New World silver.

In the Appendix (P.) the highest and lowest price for each year and notes on the trend during the year are given for the silver sold from the Blaydon refinery between 1729 and 1828. Here only the most important points need be noted. The most obvious single point is the disturbance caused by wars, in particular the Napoleonic and Revolutionary wars at the end of the 18th and beginning of the 19th century. The actual alterations in price do not, however, coincide in each case, for in the Austrian Succession war, though prices were high during the early 1740s the most dramatic change occurred in the last quarter of 1745 when the price fell from 5/11 to 5/7 in six weeks. This was followed by a slow rise during 1746 and a period of relative stability on which the peace had no marked effect. The Seven Years war, on the other hand, saw a fall in the price throughout 1756, a rise in the last quarter of 1757 and the first half of 1758 and then a period of high price (reaching 6/2 in 1761) till 1762, after which it fell to 5/8½ at which level it remained throughout 1764.

The American War again coincided with a period when prices rose, till in November 1782 silver stood at 6/5½ and the peace was followed by a very sharp fall, till by the middle of 1785 the price was only 5/6d. Before

(1) Gayer, Rostow & Schwartz seem to suggest that there are no figures available for the period prior to 1808.

dealing with the later wars it will be as well to notice the peacetime alterations in the market prior to 1789.

Throughout the 1730s the price remained remarkably steady except a slight fall in 1735-6, but in no year is there more than a penny between the highest and the lowest figure. Such stability was again enjoyed in the late 40s and early 50s, for between 1747 and 1754 there is 1½d between the highest, 5/11, and the lowest at 5/9½ over the eight years. The period between the Peace of Paris and the outbreak of the war with the American states differs from those earlier times of peace in that the price of silver was subject to greater variation. The years from 1765 to mid-way through 1772 saw prices rise from 5/8½ to 6/1, if not continuously at least with only minor interruptions to the upward movement. This tendency was then reversed and by the end of 1774 the price had returned to 5/8. I can find no completely satisfying reason for these movements though the heavy export of silver to India between 1766 and 1772 may well have been a contributory factor in the maintenance of high prices till 1772. Obviously in the Commercial Crisis of 1772 the stop of payments by Sir Richard Glyn and Halifax Banks in June had an effect on silver prices, but this cannot account for the longer changes over the period 1765-75.

The few years of peace between the end of the American War and the outbreak of the French Revolutionary troubles was noticeable largely for the abnormally low prices that continued from 1785 to the second half of 1795, except for a small rise in 1792 and 1793. The rise which started in 1795 brought prices up to about 5/9 to 5/10 at which they

remained during 1796, showing a surprising stability for fifteen months. This contrasts sharply with the fluctuations in 1797 when, after rising to 6/- in March, there was a break which brought them down by May 16th to 5/7½ and before the end of September to 5/4½. They remained at about 5/5 for almost 12 months and then once more rose, till by 1801 they had reached 6/6, despite a small set back late in 1800. After falling by 5d to 6/- in 1802, they rose again at the end of 1803, only to fall back again to 5/10 by June 1804 for a short time. Between 1805 and 1809 they varied at a little above the 6/- mark, though the size of the fluctuations was 2d or 3d in a year. The violence of the fluctuations became more marked during 1810 and 1811 till in the second half of that year a more firm upward tendency becomes apparent which carried the price up to 6/8. This move continued through 1812 and 1813 and the highest price received was in February 1814 when it reached 7/5. Although this sort of price was maintained till May of that year it then broke and by August was back at 6/1 and was moving slowly up to 6/4 in February 1815 when the Napoleonic 100 days sent it up from that to 7/6 in under four weeks. By August, the Emperor defeated, the price had again fallen to 6/3½ and continued down till it reached 5/4½ in October 1816.

For the few years after the war for which I have figures the most outstanding things are the rise in 1817-18 to 6/-; the fall in 1819 which brought it back to 5/6½ by July, and the long period of very low prices from then till the figures cease in 1828. In these last nine years the price never exceeded 5/5 between June 1820 and December 1828 and was as low as 5/3½ or lower at some time in each year, except 1825, 1827 and 1828.

As this brief account shows, war was undoubtedly the most important factor in changing the price but the series remain as an interesting guide and check to many aspects of 18th century economic history. To the Blacketts and their successors, however, they were of only marginal importance compared with the much greater variations in the price of the main product - lead.

Note.

Since this section on the silver price series was written a further examination has revealed that it is a most sensitive indicator of financial crises. There is,however, an anomalous problem in the way in which it so acts. At first sight one would have supposed that in a period of high liquidity preference silver bullion would have been in such demand that its price would have risen. In fact the reverse takes place with a very marked fall in for example both 1745 and 1772.

Tentatively one would suggest that this occured because in such times bullion is being quoted in terms of coin while in times of confidence quotations in the acceptable monetary media were not so confined. Thus as long as silver bullion bore a statutory value in terms of coin; i.e. up to the Suspension of 1797,the onset of a crisis of confidence would be shown in a tendency of bullion to approximate to that par value of 5/7 per fine ounce. (equivalent to 5/2 per 'sterling' ounce).

A further discussion of the value and implications of this series would have been out of place but I now feel that I underestimated its importance and failed to understand the mechanism by which some of the fluctuations should be explained.

The Marketing of Lead and Litharge (1)

For these producers of lead Newcastle was as far as their financial interest in their product went. Whether as with Greenwich Hospital a Commission agent was used, or as with the Blackett-Beaumonts their own chief agent sold it, the buyers were the Newcastle lead merchants. It was only in special and very rare circumstances that they acted as their own merchants and in the case of the Blacketts they refused to have any part in moving it even down the Tyne from their wharf at Blaydon. When new clients made enquiry for lead direct to the agent at Blaydon the answer was almost invariably the same: 'Sir Walter does not export any of it himself, but sells it to the merchants here without risk of further trouble'(2). On the conduct of the Hospital's agent there is virtually no information, but from the Blackett correspondence it is clear that he acted in the same way as the other large producers so that a description of what happened in the Blackett concern may be taken as indicative of Greenwich as well.

It would appear that the various merchant houses in Newcastle specialized in different aspects of the trade, some being tied to the great London houses, others dealing with Holland or Denmark, and so forth. During the century, however, London became the dominant market and the connections between Newcastle merchants and their London clients became

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(1) The sale of litharge followed in all things so closely that of lead that I have made no distinction between the two as both prices and markets are virtually identical.

(2) From a letter of April 2nd 1770 to Walter and James Robertson, merchants at Lyme Regis.

very close till it becomes impossible to discern which merchant is simply acting on behalf of a dominant London merchant and which is an independent trader on his own account. In February 1764 a letter from Henry Richmond mentions this growth in the influence of the metropolis:

> 'That Messrs.Peareth & Sorsbie have of late years been the principal purchasers of your lead has been owing to the war which turned that trade chiefly into the hands of merchants in London for whom they are concerned, and it has been advantageous to you that they gave your lead the preference for the other lead merchants here, who used to have the foreign commissions, except Mr.Carr, have had little to do with this trade. Probably the demand will increase this year, and foreign commissions find their way again to this port as before the war.'

In fact, London never completely lost its wartime gains in this market and became the principal market to which Newcastle lead was sent for both home consumption and export. One of the few times when the producers turned to traders on their account was in 1756 when the fear of war caused some dislocation of trade but even then the Blacketts did not follow their example:

> May 25th, 1756. Joseph Richmond to Sir Walter Blackett.
>
> 'Some of the lead owners here and at Stockton as the demand at home is not likely to take off their stocks send lead to Holland Market on their own account to be sold by commission.... This is a way of trade I cannot recommend, tho' the old Sir William Blackett sent great quantities of his lead to the Holland market in Queen Anne's war because he could not get it disposed of otherwise.'

For the merchant the lead trade was precarious in the extreme and during the period for which there is information there are a large number of bankruptcies even among the large merchants and many of the smaller people appear as buyers for only a few years and then fade away. Between the merchants and the producers economic war was waged with all the tricks

available to either side being used as occasion demanded. In 1789 the London lead houses, under the leadership of a Mr.Fishwick, entered into 'a kind of combination' for the purpose of reducing the price, and J.E.Blackett as the agent for the largest single producer took it upon himself to break it by underselling to non-members and refusing sale to members. Again in 1804 he wrote to Mrs.Beaumont:

> 'The London lead houses have used every endeavour to reduce the price of lead, and as they knew that you only had a large stock, they stood off in hopes of putting you under a necessity of selling at a reduced price.'

Retaliation by the producers took the form of combination but in their case the large number of small concerns made it very difficult and it was almost a lone battle that the Blackett-Beaumont family fought, except in 1805-6 when, in conjunction with Isaac Wilkinson of Chesterfield and the Welsh producers, a successful price fixing ring was created. Even when alone, however, the Blacketts were not by any means powerless for, though it is impossible to be certain what proportion of the total British production they had, they were by the last two decades of the 18th century by far the largest single producers, and with the Quakers and Greenwich can scarcely have been responsible for less than two-thirds. I would estimate that their share varied between 20% and 40% of the total and in this I am more likely to under-estimate than exaggerate their importance. Almost more important than the actual share that they had was the fact that they almost alone were in a position to answer single handed the calls of the larger consumer, such as the East India Co., or the Ordnance Department. By selling a large quantity early in the selling year (few sales were made between November and March) it was hoped that the price might then be to some extent regulated for the remainder of the

year. Such a policy had its dangers but as this letter of 1782 shows it was the normal practice.

22nd April 1782. J.E.Blackett to Sir Thomas Blackett.

'On the 10th I was applied to by Dr.Hall for 20,000 pieces, he offered £16¾ for common and £17 for refined lead. I declined selling that quantity, but entered into an agreement with him for 10,000 pieces equal quantities. My object was to sell such a quantity as would in a large measure fix the price for the year - at least prevent it dropping. This was following the line which the late Mr.Richmond always pursued, and which I am satisfied is for your interest'.

Thus we have the position that the Blackett-Beaumonts, though in some ways at the mercy of the merchants, held in others in a very strong hand which only needed careful and cool playing to ensure for themselves a good bargain. Nothing they could do could entirely regulate the market and during the century the price of lead and the quantity that could be sold fluctuated violently.

The most interesting thing about the lead market is its sensitivity to political as well as economic changes, but unlike the coal trade in the North-East it was not often able to conduct a lobbying campaign in Parliament. It was not want of trying but a lack of support from any large number of people in the right place that produced the failures. Whenever any measure came for consideration the proprietors tried by united action to push their views, and in the first instance for which we have information they were successful. In December 1755 the Government were rumoured to be about to put a further duty of 40/- per ton on the export of lead and in the letter books the reactions can clearly be seen of the interested parties.

27th December 1755. Joseph Richmond to Sir Walter Blackett (M.P. for Newcastle)

'The laying on any further duty on lead exported must be impolitic in the government, as it would be turning the balance of trade more

> against us both with France and other kingdoms and put them upon searching for that comodity (sic) in their own territories, as we did for iron in the Plantations when ye Swedes laid a higher duty on the exportation of that article.'

By the beginning of January, after a series of meetings with representatives from Stockton and Hull he reported:

> 11th January 1756. J.Richmond to Sir Walter Blackett.
>
> 'The various lead agents design immediately to apply to all they think they have any influence with to oppose it. The Agents of Greenwich Hospital, I find, do not think they ought to concern themselves in the affair, tho' if any duty sho'd be laid on, the Hospital must suffer.'

In this case the effort was successful though one is surprised at the scruples of the Greenwich Agents.

In 1812 a memorial was addressed to the Treasury on behalf of the lead owners in which they requested a reduction in the Export duty and again the point is made that unless our lead is allowed onto the continent free from any duty native sources will be exploited to the great detriment of our industry:

> 'It is needless to detail the encouragements given to such pursuits by the French Government, or what may one day be done in Spain, should the activity of her inhabitants become proportional to the riches of her mines, or the heavy duties on the importation of English lead by which the infant establishments of America are annually protected.' (1)

On this occasion the Agent, Mr.Morrison, was far from sanguine for he notes, 'the urgent calls the government are under for money, the opening of the Baltic and perhaps the continent will be opposing reasons for not abandoning at this period one of the means of raising supplies; and if the tax is ever reduced, it will be in more affluent times and by proofs more convincing than what are urged in this representation.' He had good reason not to be hopeful.

(1) Draft of a Memorial to the Treasury in the Beaumont letter book 5th April 1812. The alarm and despondency caused by Huskisson in 1825 called forth

a letter which though its fears were not at once justified showed clearly that only with protection could the British lead industry survive and that it had not the political ability or power to ensure its survival in the face of free trade agitation.

25th May 1825 to William Huskisson.

> 'We the undersigned owner (Beaumont) and extensive occupiers of lead mines have learnt with the utmost alarm that it is intended to lower almost to nothing the duty now payable on the importation of Foreign lead and ore..... feel they should not have discharged their duty to their employers and to the 30,000 families whose very existence is at stake and to whom this measure will leave no alternative but the choice of banishment or the workhouse, if they had not raised their voice against its adoption.'

A year later it was noted that the importation of foreign lead had increased alarmingly while the price had fallen by over 20% and the number of workers had also started to fall. These direct attempts to interfere with government policy are primarily of interest for the arguments used by the lead proprietors rather than their actual effects. The fluctuations in price that occurred during the 18th century are more often the result of factors beyond the control of the producers and must be examined in detail. In Tooke's History of Prices (Vols.I & II, p.404), a series are given for English lead in London of fodders of 19½ cwts. but, as they contain little information as to where they are from, I have decided to use them only occasionally for comparative purposes. The figures for Blackett-Beaumont lead are based on those received for major sales as small quantities always fetched a higher price but were insignificant as a source of income. In addition, they always refer to the price at Blaydon, free from any further costs, of fodders, of 21 cwts. except in a few cases where for special reasons I have converted them to tons.

When the main series starts in 1729 it is seen that the price fell in that year from £16 to £15½[1] but from a cash book started in 1725 it would seem that in the previous four years the price had normally been lower, more in the region of 14 to 15, and it was only in 1728 that it rose to above 15¾. Between then and 1755 in the absence of correspondence it is only possible to hazard opinions as to the causes of the changes that take place and it may well be that in fact unimagined factors rather than the more obvious ones provided the main cause in some instances. A falling market in both 1730 and 1731 may be connected with the European disturbances ~~over the Polish succession~~ and almost certainly the fall in 1742 was connected with wartime dislocation of trade in an area which relied on English lead almost entirely. The period between these two disturbances, however, saw the price vary quite considerably from 14 (in the later part of 1732 and early 1733 and in 1736) to 12½ at the end of 1740. As with silver the late 1740s failed to produce any marked change from wartime prices, but in the case of lead the price remained rather low until 1751 at between 11 and 12, whereas with silver the price had been high. For the next few years, however, the price rose consistently till by the summer of 1754 it had reached 18.

From this point it is possible to illustrate many of the changes in price from the agents' letters, which in every case are to his master unless specified otherwise, and from these form a clear impression of the factors that they, at least, thought affected the market. In January 1755 he expressed the belief that 'if the price of lead do but keep up I doubt not but this year will be better than the last', but less than

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(1) Hereafter I shall quote all prices in £s and fractions of a pound as they are given in the ledger and omit the sign £; thus 14⅞ should be taken to mean £14.17s.6d.

three weeks later doubt had arisen and two letters of February of that year illustrate why:

4th February 1755

'The apprehension of a rupture with France puts a full stop to ye lead trade, and if matters are not made up that comodity must drop very considerably.... '

18th February 1755

'Lead is fallen at Stockton and Hull and there are great quantities at those markets. I should be glad to know whether a war is expected in Europe this summer, that I may regulate my conduct in the lead trade accordingly: for if we should have a war the first market that offers will be the best, but I hope an open rupture will not happen this year.'

His fears were justified for by the end of 1756 the price was down to 14¼. By the middle of 1758 he was even more depressed 'the price is now dropped to £13. 5. 0 and even at that price I cannot get any quantity sold', and in November 1759 affairs were even worse:-

18th November 1759

'I have sold only about 6,000 pieces of lead this year, which amounts to no more than about £4,500, but it has cost you near £5,000 so that it frets me to sell at so much loss, and yet I must dispose of 3 or 4,000 more to pay off Allenheads and Coalcleugh to Christmas next.'

The death of Joseph Richmond resulted in few letters surviving for the next few years but this deficiency is made up by a letter of his son and successor, Henry, to Sir Walter in March 1764 which throws a great deal of light on the years 1760-3 when the price remained very low.

12th March 1764

'The demand for lead at this port in the years 1760, 1761 and 1762 was not sufficient to take off your whole quantity: and this rather than a refusal of the current price in hopes of a better was the cause of its accumulating. The price in 1760 was £11 a fodder, which was 20/- lower than your lead had cost you, but so much of it as could be got off last year was sold at a price better by 38% than if you had sold it in 1760, and even the present price is better by 29 per cent than that would have been.'

The extent of this enforced stock-piling can be seen when at Blaydon alone over £52,000 worth of lead pieces lay in January 1760 and by January 1764 there was still £57,500 worth there. Even the end of the war in 1763 made little apparent change either to the price or to the ability of the Blacketts to sell large quantities. In February 1764 Henry Richmond, when asked to see what sum of money could be put up for investment in Government stock, had to write that nothing at all could be expected from the lead interest.

1st February 1764

'I am sorry that your good intentions should ever want means for their execution, but I cannot yet sell lead. .... If I do not get 5 or 6,000 pieces sold by the beginning of March, and that is a contingency you are sensible your affairs will be in a worse situation than ever I knew them.'

The disastrous effect of the war on the fortune of any lead owner not supported by a large revenue from land can well be imagined and it is scarcely surprising that Sir Walter was one of the firmest supporters of peace almost at any price in the House of Commons. One of the last surviving letters of Joseph Richmond to a master he had then served for over 30 years acts as the best 'tail-piece' to this period:

3rd November 1759

'If the war continue another year, as it is likely it will, nothing but loss can be expected from the lead trade, and therefore the less you are obligd to sell the better.

You will please consider whether it will not be better if you can raise £30,000,which will enable you either to pay the lead mines and preserve your lead for a better market, or pay off some of your bonds that are at a higher interest, especially those that you think most likely to call in their money.'

For the remainder of the 1760s the price remained low and it was not until 1771 that there was any large-scale fluctuation when it rose from 14 to 17 for a few weeks only in August and September and then subsided

once again till by the end of 1772 it was down to 13¾. As to the causes of both the long period of low price and this sudden movement, the letters offer no clue; but it may be that the greatly increased production in Alston Moor resulted in a surplus to the market in Newcastle. For the violent change of 1771 I cannot offer any explanation.

Despite the generally low price both of the '60s and '70s when it varied little from the 13 to 15 limits, there is little doubt that profits could and were made, and that the price-fixing of Mr.Richmond may well have done something toward this stability. Of rather more importance was the ability to sell the whole of the year's production and it was in the quantities sold rather than the prices received that variations occurred. Thus while in 1765 over 2,800 tons were sold, only just over 2,000 were sold in 1767 and 1769; and in 1771 nearly 3,000 tons as compared with 2,200 in 1775.

It is a curiosity of the surviving correspondence that it seems to be much fuller in times of difficulty than when things are going smoothly and when it next starts to throw a great deal of light the American War had begun, and both Sir Walter Blackett and Henry Richmond had died and been succeeded by Sir Thomas (Wentworth) Blackett and John Erasmus Blackett respectively.

Throughout 1779 prices fell and one of the reasons that brought this about was the increase in insurance rates in the face of privateers. In December 1788 the insurance to London had been at 2½ guineas per cent and by the middle of 1779 the activities of the privateers put a virtual stop to the trade:

1st June 1779

'...The privateers will not ransom any ship that has lead, which has raised the freight of that article and indeed for the present prevents any ship taking it.'

By the end of that year the agent wrote 'The lead trade continues very bad, and I fear will get worse.' And by the middle of the next the price had fallen to below 12.

In December 1780 prospects were slightly brighter and J.E.Blackett wrote:

23rd December 1780

'Our affairs in America have a much better aspect, but I do not much like the appearance of things at home. A Dutch war is to be dreaded - it would affect the lead trade much, but I hope may be warded off. I have the pleasure to inform you that the price of lead is lately advanced .... (and) expect it will be higher unless we have a war with the Dutch.'

In fact the price did rise till by January 1783 it was over 19 and causing Sir Thomas some alarm.

18th January 1783 J.E.Blackett to Sir Thomas (Wentworth) Blackett.

'I am of your opinion that the price of lead may be carried to too great a length and that caution should be used in the advance of the price; at the same time it is advisable to take the advantage of a rising market, and I have the pleasure to tell you the present price is £19. 5. 0 per fother for refined and I have occasion to believe it will keep up this year.'

The price remained high throughout the summer, though by June it was reported that there was little or no demand as the high price prevented any considerable purchases for the foreign market, and the great dealers were standing off in expectation of a fall. This came in the last three months of that year and continued till March of 1785. By this time the world wide nature of the trade was such that such seemingly unlikely things as an alteration in the policy of the Danish East India Company produced a fall in demand and a consequent tendency in the price to fall.

It would seem that the main cause for the drop in these years was a drop in Far Eastern trade for which I have been unable to find any explanation.

The fall was only short lived and by June 1787 the price for the first time reached 20 and was still rising,by the latter part of '88 it stood at 23. Two letters on this are worth quoting though the first is rather cryptic.

27th November 1786.

'The Treaty of commerce with France will be of no further advantage to the lead trade to that kingdom, I imagine than it may be to the cloth trade.'

21st March 1787 J.E.Blackett to Joseph Wilkinson of Hull (Lead merchant)

'I differ with you in opinion as to cause of the present advance of prices being solely owing to the opposition of the buyers in London. They may in some measure have contributed to it, but the demand from abroad for lead as well as for white and red lead is, I believe, the principal cause of it nor do I think that there will be any danger in supporting the present price.'

One would like to know what advantage, if any, J.E.Blackett expected the cloth trade would reap from the commercial treaty. After having been steady during the first half of 1789 the price fell sharply in the second one and would be tempted to assign the French Revolution as a major cause. That it was not the only one is seen from the letter of 23rd October.

23rd October 1789

'The demand from abroad at present is trifling... the confusion and the appearance of things in Flanders afford us very little prospect of any considerable demand from those quarters; the war which the Swedes and Danes are engaged in we are well assured will prevent them sending any lead to China the next Spring.'

Unfortunately it is not possible to say how much lead these people were in the habit of sending to China. Having been low in 1790 the price rose throughout 1791 and remained steady at about 20 during 1792 and the early

part of '93, but with the outbreak of war started a downward movement that carried it to 14½ by the end of 1794. In the middle of that year the agent saw 'no prospect of a better price during the war' and yet the price rose steadily in 1795 and the first part of 1796. This improvement did not last and though the price rallied a little in late '97 and early '98, by the end of that year it was once more at 14½. The European conflict cannot be held completely responsible for these changes, though the course of that struggle was reflected in the price and demand, as can be seen from the last three of these quotations:

19th January 1798.

'It is fortunate that I made those sales of lead in September and November last for there is no demand at present, and the prospect for this year is very unfavourable indeed. The foreign ports being in great measure shut to our trade, and the restrictions laid on by the enemy on the ships of neutral powers, will be a very great cramp on the trade. The quantity of lead sent to India has been much less for these two years past, and this year there will be a further reduction of 1,000 or 1,200 tons. '

22nd October 1798.

'The late success of our fleet will I expect occasion a considerable demand for lead in the ports of Italy and the Levant.'

6th November 1798.

'I acquainted you in my last that owing to our late success in the Mediterranean and East Sea the demand for lead has increased and of course the price advanced.'

8th March 1799.

'The loss of the Italian ports is a great disappointment as it prevents the demand from thence and of course the prospect of an advance of price.'

Despite the disappointment the price did in fact rise almost continuously through 1799 to the middle of 1803 when it stood at 33-34. In January of that year letters received by J.E.Blackett from Derbyshire, Scotland and Wales left him in no doubt of the price being kept up, but by June

doubt was very present.

11th June 1803.

'I am apprehensive that the war will have a bad effect on the trade, particularly should the French take possession of Hamburgh.'

The price did fall but only a little to 29½ and then not for long, and in the first few months of 1805 it rose spectacularly till it reached 40 and it was even rumoured 42, though J.E.Blackett denied any knowledge of sales at that figure. In September of that year when prices were still high he wrote to a fellow lead agent, Isaac Wilkinson of Chesterfield, with whom he had been in occasional correspondence on lead matters for some time:

11th September 1805 to Isaac Wilkinson, Chesterfield.

'I have reason to believe that the London Houses are using their utmost efforts to reduce the price of lead, but hope they may be resisted with effect as the stock throughout England is not large. I confess I think prices were run up too rapidly last Spring, the consequence of which has been that the exportation of lead in all shapes has been materially checked and I know that in Holland they have been supplied chiefly of late from Germany and in France from Spain. Yet when once the market turns, it may be difficult to say where it will stop. I therefore consider it to be for the interest of the trade to endeavour to keep the prices as near as they can to those of the Lead Company's last sale which were 38 and 39.'

The price was maintained during most of 1806 though with a growing uneasiness on the part of the new agent, Christopher Blackett, (no near relation of either his predecessor or master) who by the end of that year wrote:

24th December 1806.

'I believe on a reperusal of my letters for many months past you will find an uniform opinion entertained that the supply would exceed the demand, and I am sorry to say that such, my idea, is too fully realised.'

Throughout 1807 prices fell till they reached 22 in early 1808 by which time the stocks in the country as a whole had largely been cleared and of

those remaining the greater part were in the Beaumont's hands - 40,000 pieces out of a total estimated at 70,000 in April 1808. By then the price was such as to interest speculators.

25th April. Martin Morrison (the New Agent) to Isaac Wilkinson of Chesterfield.

'... It is my opinion that the lead merchants will defeat their own purposes in endeavouring to fix the price of lead at a lower rate than it can be afforded at, by inducing men of large capitals who from late events in the commercial world have money to spare to speculate largely in this article, and who will be enabled to hold it, till they can send it to a foreign market. This has in part been done and I have sold within the five last weeks 20,000 pieces to a Russia and an Oporto House with the view of being able ultimately to export it.'

After June of that year the price rose quickly till it once more reached 40 but this was only a short burst, and in 1809 it started to fall and continued to do so till the latter part of 1811, by which time it had reached 23. In 1809 the uncertainty of public affairs and the high price of linseed oil and turpentine are blamed, and in 1811 the lead industry is in a very poor way:

22nd March 1811. M.Morrison to Mrs.Diana Beaumont.

'The quantity of lead produced to December 31st next cannot be estimated at less than 100,000 pieces... had the situation of the country been encouraging a considerable surplus in bills might have been in your bankers hands by the sales of last year, but you are aware, madam, of the difficulties that have been encountered. It has long been a source of anxiety to me... the great and increasing expense of working the mines at a time peculiarly ill calculated to bear any excess, when the commerce of the country has become from bad to worse and is at the moment almost reduced to the extremity of distress.'

For the remainder of the war, prices continued to fluctuate fairly violently but the upper limit was only 28 and the lower 23 till 1815. In July 1812 it was hoped that the relaxation of the orders in Council re America and the state of the Baltic would improve commerce and the price but no lasting change occurred and in a memorandum of October 1813.

some of the reasons for this are suggested and the different prices at the various markets in Europe given.

Memorandum from Mr.Morrison to Mrs.Beaumont, October 1813.

'Before the war the Continent took annually 20,000 tons of lead from this country value £500,000; the first nine months of this year exhibit an export not exceeding 3,500 (tons) from the ports of London, Liverpool, Newcastle and Hull a considerable part of which has been exported for the supply of our own settlements.

Statement of the present (selling) price of lead at the principal markets of import and the price they respectively yield to the miners in this country.

Item	St.Petersburg	Hamburgh	Amsterdam	Rouen	Leghorn
Sold @	£27.10.	£22.15.	£25.10.	£26.16. 8	£31. 5
Freight & Insurance	1.10.	1. 5.	1. 5.	1.10. 0	3. 6
Expenses of sale	2. 5.	1.15.	2. 0.	5. 0. 0	3. 0
	£23.15.	£19.15.	£22. 5.	£22. 6. 8	£24.19.
Nett Duties	4. 0.	4. 0.	4. 0.	4. 0. 0	4. 0
Nett	£19.15.	£15.15.	£18. 5.	£18. 6. 8	£20.19.

It must be observed that the exchanges on Hamburgh, Amsterdam, Paris and Leghorn are taken in these calculations at the present rates which are 10% above the par on those places, but in any permanent view of the subject the exchange must be considered as at par in which case the produce to the English miners will be reduced to that extent.

Lead at Hamburgh appears to sell at a price much below that of the other markets which is owing probably to its vicinity to the mines in the Hartz mountains and a fair idea may therefore be formed of the price at which the German miners can afford to deliver it.'

From this it can be seen that even within Europe there were wide differences in the price but even so at none of them is the price left to the English producer above 21, which left little profit margin.

The advent of peace failed to bring any important improvement, for though it rose in the first half of 1814 the rise was not sustained, and

though there were hopes of a higher price it continued to fall throughout 1815 and 1816 till it reached 16. In the next ten years we have two periods when prices rose, 1817-19 (February,)and the first five months of 1825, and three years in which the price fell, 1819, 1826 and 1828. Unfortunately the correspondence gives no assistance as to the reasons but they would seem to be closely connected with the general national cyclical movements of the period.

As we noted earlier, of as much importance to the owner in some ways as the price was the ability to sell the stuff at all, which was for obvious reasons connected with the price, as in times of high price few would buy and in times of low price the agent was unwilling in many cases to sell. This connection can best be shown by the following table for the sales made from Blaydon in the twenty years 1791-1810, in which the average price per ton for both lead and litharge is given, as well as the number of tons sold and delivered each year.

Table 8. Quantity of lead sold annually and the average price received 1791-1810

Year	Tons sold	Per ton Average Price	Year	Tons sold	Per ton Average Price
1791	5,900	£16.8	1801	5,500	£22.8
92	4,850	18.8	02	4,750	27.3
93	3,350	17.7	03	3,000	31.2
94	No figures available(1)		04	7,100	28.7
1795	7,400	15.1	1805	4,500	36.0
96	2,750	18.3	06	1,800	37.3
97	9,700	15.8	07	5,650	25.9
98	5,000	14.4	08	8,200	24.5
99	6,750	16.7	09	5,500	29.4
1800	5,150	20.6	1810	4,850	30.6

N.B: The figures are approximate to the nearest 50 tons.

(1) In that year Sir Thomas Blackett's death caused two accounts to be kept which give the following figures:
(a) The administrators of the Estate 4,150 tons @ £15.2 per ton
(b) The new owners' account 3,600 tons @ £14.2 per ton

On the figures in that table it is worth mentioning that the enormous cash requirements for the settlement with the Bishop in 1808 overcame any reluctance to sell on a low market.

From this detailed survey of the price fluctuations certain main points emerge over and above the main impression of the extremely large scale of the variations. Of these the most unexpected is the world wide ramifications of the export trade and its sensitivity to factors affecting these distant markets. I am not in a position to assess what proportion of the total production would be sent for export in any year, but undoubtedly the export market was of the greatest importance from the very beginning. The effect of war on the price movements is only further indication of this and it would seem that the requirements of the Ordnance department, though large, were not such as to make up for the loss in overseas trade. The presence in 1808 of speculators in the market was in all probability no new phenomenon and it may well be that in some cases it was this class of buyer that stimulated the increase in price. Once the price had risen two contradictory things happened; the first was that the producers were induced to increase their production, as, within limits, if the price allowed production could be increased at will; and the second the demand from the foreign market was reduced as the price of British lead more nearly approached that of other producers and overtook it. The combined result of this was to create a chronic state of over-production and force those with little capital to sell at a lower price while only the largest could afford to stock pile in the hope of a better market. Thus in the year 1805 the Beaumonts produced a great quantity of ore at a cost which required a high selling price and

were forced in the end to sell much of it at a loss.

The resulting picture of the whole of the lead industry is one in which nothing is stable, great short-term variations occurring first in the mines themselves either through geological or economic causes and then in the market over which only a small degree of control could be exercised. In the midst of this great uncertainty it was the unenviable task of the chief agent to try and produce for his master a stable income. It is little wonder that J.E.Blackett complained of the smallness of his salary at £210 in 1793, and even less surprising that Mr.Morrison suffered from what can only have been from the evidence of his letters a stomach ulcer.

The Income derived from their lead interests by Greenwich Hospital and the Blackett-Beaumont family to circa 1830

We have already seen how the Bishops of Durham and the Rectors of Stanhope converted their manorial and ecclesiastical rights over Weardale into a profitable source of income, which by the 1820s had risen to over £4,000 per annum each. How much more successful were Greenwich Hospital and the Blackett-Beaumont family in turning lead mine owning to profitable account? The difficulties of both production and marketing which they had to face were not without their rewards.

If we deal with Greenwich Hospital first, it will be remembered that before 1768 they had not bothered to process their duty ore from Alston, but had sold it there as ore. From this method they were receiving in the 1764-6 period about £6,000 p.a, though there were variations in both the quantity of ore and the price received per bing. For the first few years the Mill did not seem to make much difference and it was not until 1771 that any increase took place. In that year gross receipts were £16,121 against which costs of just over £3,000 had to be counted so that a net gain of £13,000 was made. After that year the net income was the result more or less of static costs put against variable sale receipts. The extent of these fluctuations can be seen in the graph (fig.) (1) opposite which gives the net income each year from 1770 to 1827. From that, certain years stand out, 1787, 1795, 1799, 1804, 1805, 1808, 1812, 1821, 1823 and 1825 as years in which the income was very high, and others, notably 1789, 1792, 1806, 1815 and 1816 when income fell very short of the normal. In the absence of any figures for stock it must be noted that the greatly increased sales of the good years may well have been for the

(1) See Appendix p.

sale of more than one year's supply of lead. A comparison of income with quantities of lead sold makes this even more probable in reverse in the bad years such as 1806 when only about 270 tons were sold as compared with the 820 tons sold the year before.

When allowance has been made for the fluctuations and the money tied up in the concern it still remains certain that the income made by Greenwich out of the Alston area was much more than that made by both the Ecclesiastics together out of Weardale on a comparable total production. Having said that, however, qualifications must be made. Of these the largest in terms of money is that Greenwich in the Nent Force level invested very heavily indeed in lead mining and not a penny of that investment is charged against the income from the mineral rights in the area. If the expenditure on this is taken into account a deduction of about £1,000 per annum must be made each year from 1777 to about 1810, and of over £2,000 after that date. It would be impossible to calculate (or even estimate) what return on this expenditure was reaped by the Hospital or its lessees.

The smelting of purchased ore may never have been intended as a commercial proposition per se, but if not it is difficult to see what motive was responsible for the extension of activity into this sphere. Misfortune and mismanagement ensured that it was not a profitable venture, at least before 1827, and it is unlikely that in the depression of the lead trade in the next three or four years it should alter in this respect. The loss was not great, and if it was nothing more than using surplus plant there may have been something to be said in its favour. Against this must be put the overwhelming weight of evidence that accuses the

Receivers and their subordinates in the 1810-30 period of incompetence, and extravagance to the point of criminal proceedings. When all the agents were dismissed in December 1832, it was decided not to continue the Mill either at Langley or at Blagill and to return to the old method by which the ore was sold as ore and the Hospital did not involve itself in any further trouble. As a result of this decision the income fell to about £8,000 per year in the early 1830s, and would presumably increase with the improvement in the gross production of the area. The Mill at Langley was let for £400 p.a. to Messrs.Wilson, Crawhall & Company and the Blagill part at least used by the Blackett-Beaumonts (for whom Crawhall was agent) as a replacement for Dukesfield Mill which they closed in 1834.

Even with the mismanagement of the 1820s, however, Greenwich never failed to collect income from lead which bore out the retention of the Radcliffe family's method of converting rights into cash and vindicated the decision not to allow the Quaker Lead Company to become the sole lessees. The greatest of sole lessees in the area were undoubtedly the Blackett-Beaumont family in Weardale, but this was not their total lead holding. It would not be safe to calculate the profit made from that source by calculating the proportion of ore which that part raised and then allocating the resulting percentage of the total profit to Weardale. In some ways it is the very size of their 'Empire' that enabled them to make the money they did. Unlike the others we have considered, they were connected with the lead industry from the grove to the wharf and did not receive their cut as of right alone but only after taking a considerable part in producing the lead.

Because of this it becomes obvious that the profit made by them should be determined by balancing income and expenditure on a scale far greater than that present in the Greenwich Hospital's Langley Mill concern. The complexity of the accounting procedure increases the difficulties, so that we are left with a situation in which the ore mined in a period October 1st to September 30th one year, is paid for in April of the next, at which time the carriage of most of it to the mills is also dealt with. The cost of smelting and carrying the processed lead is, however, calculated on a calendar year so that there is an overlap between one year's production being brought to account at the mines and the same lead being accounted for in respect of its processing. To add one final complication, lead processed in one (Calendar) year may well not be sold until the next. As a result of these complications, two different types of income are important to the owner or his agent, the first which I call trading return and the second which they called profit or loss. The first is the balance in any individual calendar year between those payments that were made and the receipts in cash or bills for lead sold; the second takes into account any alteration in the value of stock on hand during the same period. For this purpose an annual stock-taking is made on the 31st December and 1st January, and a figure of computed cost is arrived at.

For obvious reasons both the trading return and the profit and loss accounts have their several interests, the one representing in terms of hard cash how the concern has done in 12 months, the other giving a different but no less true picture. In the Appendix, pages , the figures for both these are given, and at once the differences become apparent. As an example, in 1815 there was a trading surplus of nearly

£50,000 but against this there was a decrease in stock to the value of over £70,000, so that a loss of £24,000 is actually recorded. Obviously, over a period of time there will be a balancing out of the two when stock valuations are similar, but this made little difference to the immediate problem of settling current accounts in the absence of current income.

If we deal with the trading returns first we notice at once in the graph that there are very wide fluctuations. As a general rule it would be fair to say that in the early years while payments vary relatively little, receipts vary considerably. The reason for this is to be found in the market in which price variations and an inability to sell tend to produce fluctuations. For the first few years there is a considerable degree of stability in the receipts until the early 1740s when it is interesting to note that faced with falling income the Blacketts were able to reduce expenditure. This was not enough and in 1745 and 1747 we have the first instances of a deficit on trading returns.

The early 1750s saw in many ways a return to the trading position of the 1730s, but in 1755 the drop in prices for lead, coupled with the high costs of producing ore (in fact in 1753-4) again produced a deficit. A continued inability or unwillingness to reduce costs in the face of falling receipts made a deficit inevitable in each of the three years 1757-8-9, amounting in 1758 to no less than £12,000. From then till the death of Sir Walter Blackett costs rose steeply and though receipts also increased, there is no doubt that the income from lead was insecure and small.

If for this period from 1729-1775 we take the figures of profit and loss given in the ledgers we find that in many cases high trading returns

are offset by a fall in stock value and that the reverse is also the case so that in the same year, 1758, in which a trading deficit was present, an increase in stock of over £14,000 left Sir Walter with a profit figure of £2,241. In 1760, however, though there was a trading surplus this did not make up for a decrease in stock, and the first loss is recorded of £272. The worst year, however, is 1767 when against a surplus of nearly £4,000 a decrease in stock is taken into account which converts that into a loss of over £10,000. In the 1730s it would seem that of the total receipts about 33% were profit, being about £6,000 out of £18,000. In contrast to this, in the period 1760-69, the annual average profit was about £1,700, which is less than 6% on an annual average receipt of over £28,000. The reasons for this are that the price of lead in the 1760s is only a little higher than it had been in the '30s, while the cost of production had increased rather more, and the 1760s were to some extent a period of capital investment, the fruits of which were not to be enjoyed until after Sir Walter's death. This last is surprising in that Sir Walter showed a marked dislike for his cousin and took great pains that the Wallington Estate should not pass to him but to his own sister's husband, Sir John Trevelyan.

Unfortunately, for the years between 1775 and 1786 the records are either incomplete or no stock-taking was recorded. As a result of this, it is impossible to give more than the trading returns for those years. These show that after the first two years of the new master a surplus was achieved, except in 1783, and this despite a period of low price. I am certain that much of the deficit in the first two years can be accounted for by the building up of stocks, as well as the adverse trade conditions.

In December 1786 a calculation is made of the total profits made from the lead concern for the period 1778 to 1786, where the profit is given as £76,447 and the total expenditure for the same period as £454,075, which gives an average annual profit of rather less than £8,500 on an expenditure of over £50,000. These figures (which do not agree with those that have survived in the ledgers, etc.) would mean that the profit on total receipts had risen to nearly 15%.

After 1786 the ledgers resume the practice of giving annual stock valuations and profit and loss balances, and at once the size of the variations becomes obvious. In 1787 a surplus of £35,000 on an income of £104,000 is increased to a profit of £59,000, while three years later the surplus was only £4,000 on a gross income of £83,000, and even with increased stock only £6,000 profit could be recorded.(1)

When the Beaumonts became the owners after Sir Thomas Blackett's death, the war with France ~~with~~ (1793) imminent, with all its economic difficulties. How far this change in ownership affected the affairs of the concern it is impossible to assess, but there is no doubt that Diana Beaumont rather than her husband became the real master. This woman, in whom the Wentworth blood was crossed with a Yorkshire game-keeper's daughter's, emerges from the correspondence as a most formidable person who did not allow the waywardness of her parentage to stand in the way of her own ambitions. By the early 1820s these ambitions had become centred on her son, Thomas Wentworth Beaumont, and the establishment of him as a figure in Northumberland, and it was to further this end that in the election of 1826 she spent about £70,000 to facilitate his retention of one of the county seats. The key for her to social position was money and that was largely to be gained from lead.

(1) In the text I have purposefully reduced all figures to round numbers as the exact ones tend to confuse and can in any case be found in the appendix.

In the first decade of the 19th century, despite a loss of over £50,000 in 1808 (in which year £70,000 was spent for the renewal of the Weardale leases), the average income from this source was only slightly less than £44,000 p.a., while in the peak years of 1804 and 1805 it was £77,000 and £91,000 respectively. This average income represented about 33% profit out of the gross income. For the rest of her life money was less easily made, but even so for the next two ten-year periods an average of £21,000 and £29,000 p.a. were made respectively.

These average profits obscure the great variations in the trading returns which vary from a surplus of £118,000 in 1804 to a deficit of £60,000 in 1810. Between 1811 and Mrs.Beaumont's death in August 1831 only two other years show a deficit (1827 and 1829), and for the rest the surplus varies between £60,000 and £9,000.

When it is remembered that in addition to their lead income the Beaumonts had also a rent roll in Northumberland by 1810 of nearly £10,000 p.a. as well as extensive property in the Wakefield area, it can be seen that it was no idle remark of Mr.Morrison when he wrote in November 1807, having just been appointed chief agent, "My anxiety arises for the preservation of a property, certainly the first in point of value in the North of England". Before I leave the lead trade it only remains to notice that over the period as a whole the increase in income was eight fold between the 1730s and the 1800s, both of which were periods of high profit margins, and that with the exception of the 1760s and early 1770s, the rate of profit remained above 10% of total receipts. The only other point that needs noting is that of credit facilities in Newcastle to meet short-term demands for cash to make the 'Great Pays'.

In the years before the establishment of the Old Bank in Newcastle in 1755 it had been the practice to raise loans privately or by discounting bills, if the cash in the great chest was not sufficient to meet the requirements. It may not be a coincidence that the same people from whom they had raised these advances were their largest lead customers. More interesting than that is that it was these same people - Bell, Cookson, Airey and Carr - who were the founders of the bank.

Already by then, however, it was the custom for payment to be made by bills on London of sixty days and then it became the habit of the Beaumonts, like many other landowners in the North East, to have two bankers, one in London and the other in Newcastle. In the later years of the 18th century, as the size of the great pays increased, it was increasingly necessary to have large deposits in the Newcastle banks and on the failure of the Bank of Burdon, Surtees and Brandling in 1806 the Beaumonts lost at least £80,000. After that date it was their custom to keep the amount in any one banker's hands as small as they could and rely on Coutts for any larger sums.

Despite these difficulties there can be little question that the Blackett family in the middle of the 18th century enjoyed a comfortably large income from lead and that the Beaumonts in the early 19th century were among the richest commoners in England. Unlike the coal industry, however, the lead industry was destined to fall away in importance and only the Blackett-Beaumont family made great money. It will be noticed later how the income from this source compares with that made from agriculture and coal mining, but at this stage such comparison would be ill-timed.

Section 3. (pages 127-170)

HOWICK HOME FARM, (1802-1836).

Synopsis:-

The abundance of evidence for the affairs of this home farm makes it possible to use it as a case study (with necessary reservations) for farming problems and methods in Northumberland in the first thirty years of the 19th. century.

The corn growing side of the farm's economy is examined in detail with the quantities of seed used per acre, the yields in terms of bushels and the gross money value per acre of the several grains being given. From this it becomes clear that the use of Gazette Wheat prices as an indication of agricultural prosperity is misleading.

The two other principal sources of income - cattle and sheep - are also examined and throw light on the effects of changing methods of animal husbandry and the effects of introducing improved livestock.

The items of expenditure are similarly examined including taxes, smith and cartwright costs as well as labour, and from the preceding examination the annual farm account balances given.

Glossary of Agricultural terms used at Howick Home Farm.[1]

A. Corn. Weights & Measures.

Bushels - Winchester, approximate weight equivalent of wheat 60 lbs; Barley lbs; Oats lbs. (As the bushel is in every case a volumetric measure and the conversion of that into weight can only be approximate I have left all figures as bushels.)

Old Boll - Six bushels used for Barley and Oats at Alnwick Mart. (At other markets in Northumberland, e.g. Hexham, the Boll of Barley or Oats was equivalent to only 5 bush.)

New Boll - Two Bushels used for Wheat and Pease (and ? rye) at Alnwick Market. (In other parts this also varies, e.g. at Hexham a boll is 4 Winchester bushels).

Kenning - Two Kenning make one (Winchester) bushel of all grains.

Thraves - Measure of straw containing 24 sheaves also used to estimate the quantity of grain in a stack prior to thrashing.

B. Cattle. Oxen Bullocks four years old and upward (After 1805 the distinction between oxen and steers (q.v.) is not continued, possibly as a result of oxen no longer being used for ploughing.)

Steers Bullocks of one, two or three years old.

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[1] Although these terms are those used at Howick they are also common to Northumberland as a whole, except where otherwise stated.

Quoys – Young cows (Heifers); there are two types of quoys - Open Quoys, Heifers in the normal sense, and Spayed Quoys, neutered heifers cut either for inclusion at a later date in the plough team or in order that they produced more beef at an earlier date.

Kyloes – Small Scottish cattle driven over the Border for fattening purposes irrespective of sex.

C. Sheep. Tups – Rams after first shearing.

Hoggs – Young sheep so called after the January following lambing and divided into Ewe Hoggs, Wether Hoggs and Tup Hoggs, according to sex.

Dinmonts – Wether Hoggs between the time of first shearing and the December following, when they are called wethers.

Gimmers – Ewes between first shearing and the December following when they are called ewes.

D. Swine. Shotts – Weaned pigs that are not either breeding sows or boars but simply being fattened up for killing.

Pigs – Only used to designate young piglets that are still with their mother.

E. Miscellaneous.

Hind – The normal term for the agricultural labourer in the North-East who is hired annually and paid largely in kind on an annual basis, as opposed to the 'Labourer' who is hired by the day and paid in cash according to his day's work. (See text).

Howick Home Farm - The First 30 years of the 19th Century

When examining rents it is common to ignore to some extent the fluctuations in yields with which the tenant had to contend except when a large-scale fall made either arrears or a reduction in rent inevitable. Almost worse than this is the assumption made to correct this that agricultural prosperity was governed almost exclusively by the alterations in the national average price of wheat. This is particularly the case in many discussions of the agricultural history of the early nineteenth century.

Ideally what would be required is a series of accounts of a tenant farmer covering a period of years and giving detailed information on yields and prices both of livestock, grain and labour. In the absence of such ideal information the use of data relating to the home farm of a large landowner can be defended on various grounds. In the case of Howick, the home farm of Earl Grey, the very wealth of the information is a defence in itself in that every fortnight from early 1803 a detailed return is made containing the names of each labourer and what he (or she) did each day, any purchases or sales of livestock or grain, any calves or lambs born, and even the names of the cows who produced the calves. This series continues with almost no breaks until at least the 1850s and must surely be almost unique . If, as is the case, details of the crops of corn are also available, justification is still less required.

To the objection that a home farm of a great landowner cannot be used as a guide for the affairs of tenants who had to rely for a livelihood on their farms it must be countered that in this case the size of the farm was in no way exceptional, and that there is no reason to think that either

the prices of stock or grain were other than the normal, or that climatic conditions affecting yields only obtained on this farm. The labour force may, on the other hand, be very different and the absence of any control over cropping certainly had its effect. As a last point, the fact that most landowners in the North-East were running home farms of some sort or another by the early 19th century does make a detailed examination of one of these valuable in a work on the economic activities of such landowners.

Before turning to the evidence in the fortnightly returns, it will be useful to give a description of the farm as it was in the first 30 years of the 19th century. During this period there are ten years from 1810 to 1819 inclusive when the farm is only about 500 acres including the park near the Hall, but before and after those dates it was about 850 acres, which was valued in 1805 at an average of 35/3 per acre to a total of £1,520. Even at this larger size it was not abnormally big for farms in the area. The land, a rather heavy clay loam, was naturally well drained and permitted mixed farming with both sheep and cattle as well as corn. These natural advantages were enhanced by very favourable climatic conditions, for which the observations made at the Hall from 1886 onward can be used as an indication. None of the land was over 200 ft. above sea level and the fact that the sea itself was one of the boundaries of the farm tended to lessen the frost period. In common with the coastal district of North Northumberland it enjoyed a low annual rainfall and high sunshine totals.(1)

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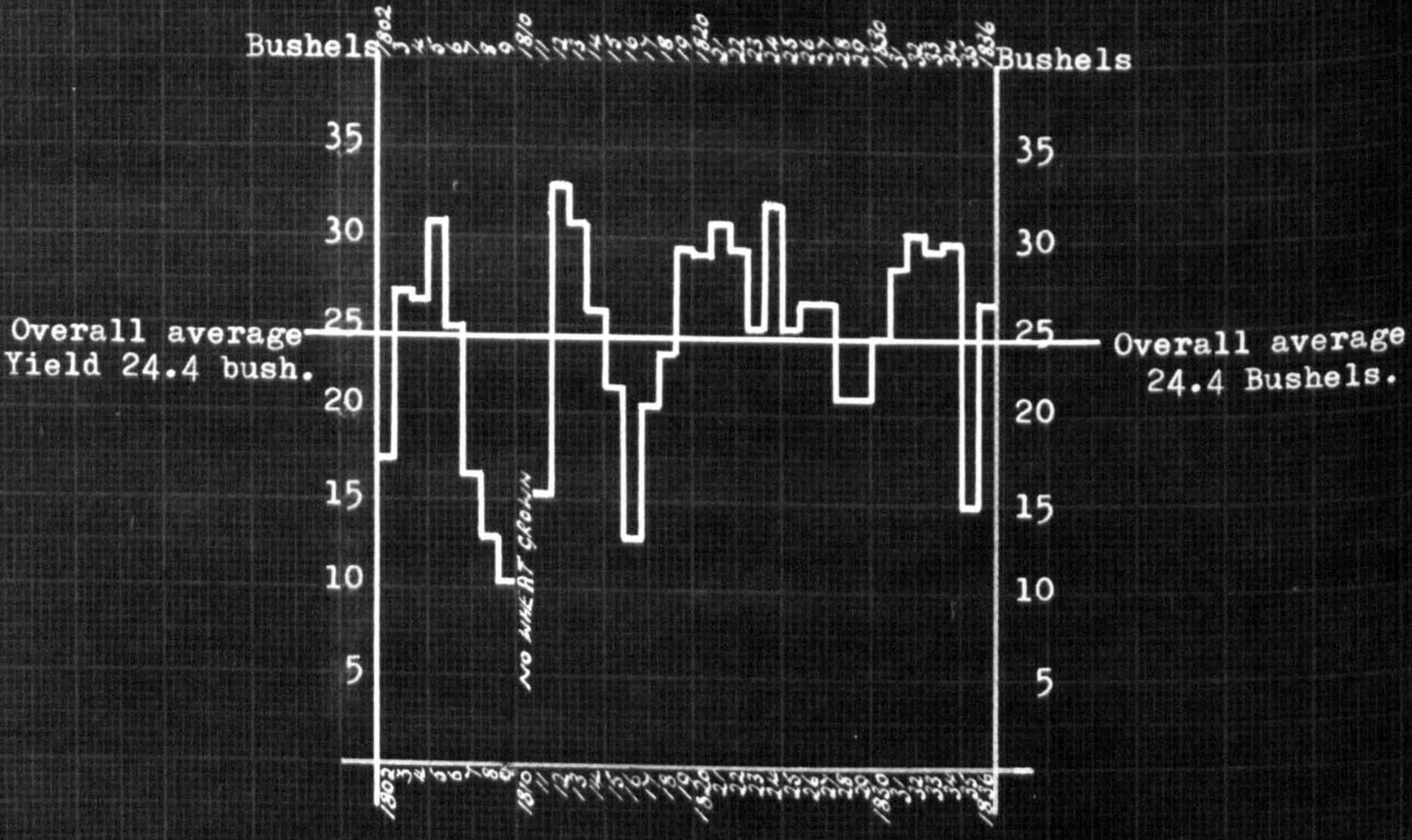
(1) The annual average rainfall at Howick House 1886-1915 was 28.3 ins. with April the driest month. Within this average there were wide variations from 20.58 ins. in 1898 (73% of average) to 41.32 in 1872 (146% of average).

Howick Home Farm.

Wheat Crops; Yield per acre each year 1802-36.



With this as a permanent background we can now turn to examine the dynamics of the farm economy in the first thirty years of the 19th century. I shall first deal with the corn crops, then with the other sources of income, cattle and sheep, and then with labour and other items of expenditure, though it must be made clear that many of the results are not capable of extension beyond those areas where geographical factors are similar.

In dealing with the corn crops we have to contend with five variables: (I) The quantity of seed used. (II) The yield per acre. (III) The number of acres devoted to each of the three main grains, wheat, barley and oats. (IV) The total acreage of corn grown. And (V) The local market price of grain. For simplicity I shall take each of the three grains in turn and deal with the seed, yield and prices, and then deal with the number of acres involved before finishing with the annual income from grain crops as a whole.

? In the appendix (page) the figures for the quantity of seed used, and total produce will be found in detail for the years 1802-1834 for the wheat crop. Here the first point to mention is that, although there was an increase in the quantity of seed used per acre from about 2½ bushels in the early years to 3 bushels after 1820, there seems very little connection between an increase in seed and the yields obtained. Some of the variations in the quantity of seed used may be the result of a change in balance between winter and spring sown crops as the latter required more seed, but on this point there is no firm evidence.

The graph opposite gives the yield per acre each year from 1802 to 1836, but it must be noted that this refers to the overall yield from the

whole farm for both winter and spring wheat. In one year (1826) it is possible to differentiate between the two and in that year the yield on the winter sown crop was 30.75 bushels per acre, while the spring sown only produced 23 bushels per acre. Because of this, is it not possible to assume that climatic variations alone were responsible for the whole of the difference between one year and the next. Whatever the causes of the variations the graph shows them to have been large, ranging from 33 bushels in 1812 (135% of the average for the period 1802-36 of 24.4 bushels per acre) to 10½ bushels in 1809. Over the whole period there is little indication to support the idea of an increase in production offsetting a fall in prices. Lastly the magnitude of the crop failures in the years 1807-8-9, 1811, 1816 and 1835 are important in considering the difficulties of a farm that was predominantly dependent on wheat production for its income.(1)

It is a commonplace that in this period the price of wheat was subject to very great fluctuations, but two things need to be noted before any attempt is made to convert these varying yields into terms of cash. The first of these is the great difference between the national average price of wheat and the prices that obtained at the local centres. The evidence of a certain Bartholemew Rudd before the Committee of 1820(2) shows that he found 'the returns published in the Gazette of the counties of York and Durham ... to be about 7/- higher than the prices I can obtain for my wheat'. On examining the Gazette prices between June 1815 and

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(1) In dealing with the yields of all grain crops no information is available concerning the variations in the quality, but the prices given in the fortnightly returns are based on actual receipts for sold grain so that the quality has been taken into account in the price series.

(2) Parliamentary Papers 1820, Vol. P.59.

June 1820 he found the Gazette prices to be about 7/- higher than his own receipts and that of the twelve districts on which the Gazette based its price; in 1819 the North-Eastern one was noticeably lower than any of the others, even including Lincoln and East Anglia.

The fortnightly returns for Howick which give the market price for best quality grain at Alnwick market support this suggestion with modifications. The difference is by no means constant, as can be seen in the appendix where the national and Howick prices are compared, and I shall give as an example the difference in tabular form between the two from 1820-25 inclusive.

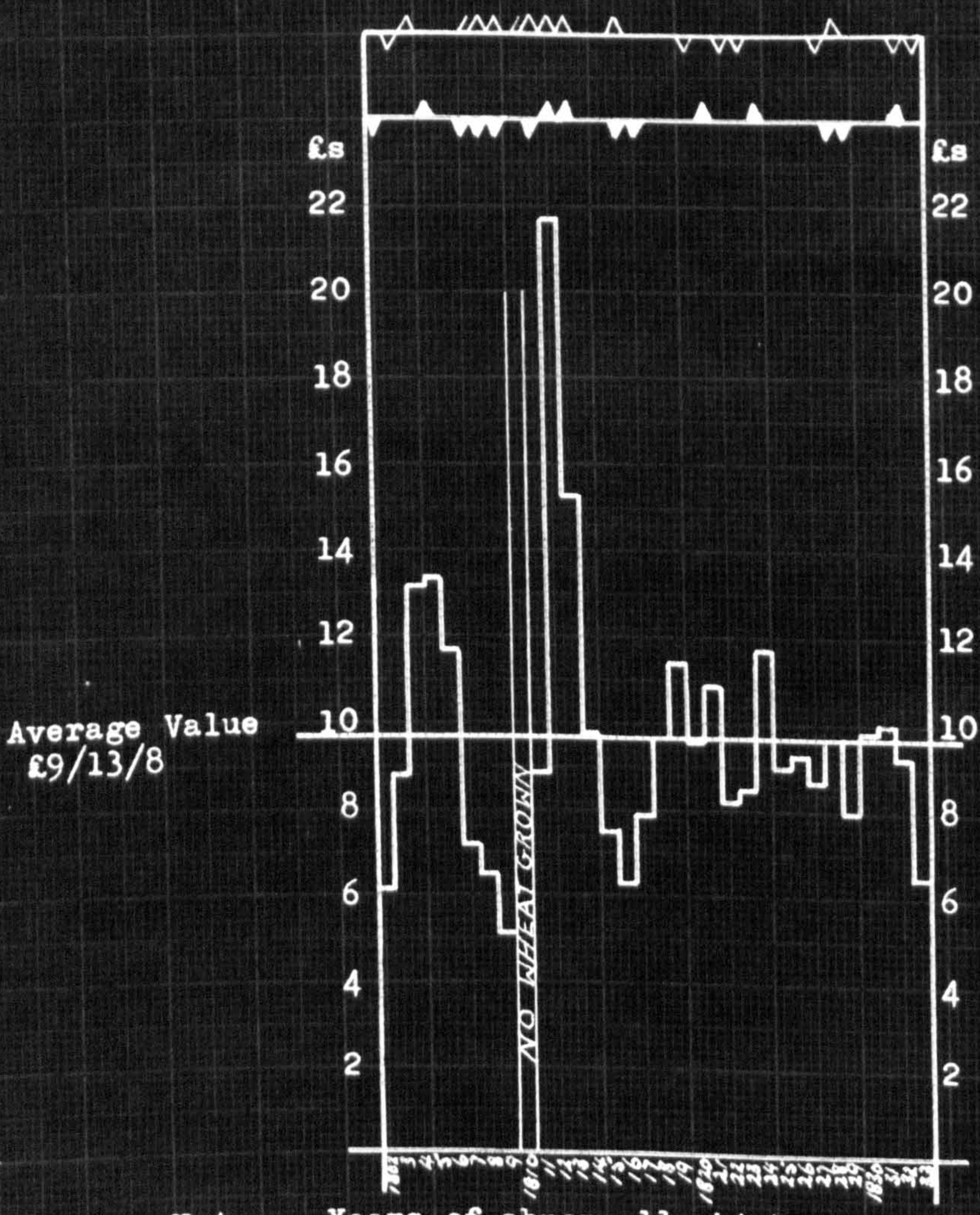
Year	National per Quarter	Howick per Quarter	Howick exceeds national by	National exceeds Howick by
1820	65/10	63/-		2/10
1821	54/4	56/-	1/8	
1822	43/3	50/6	7/3	
1823	51/9	44/6		7/3
1824	62/-	58/-		4/-
1825	66/6	60/-		6/6

This obvious difference in regional price fluctuations may well account for the silence of some areas before Parliamentary Committees into distress, but certainly it shows that the national figures cannot be used as any guide to local conditions.

The corn produced in one harvest would obviously be marketed not during the same or even the following calendar year exclusively, and so I have assumed that in Northumberland the grain of one harvest would in the main be sold during the year from 1st October following harvest to the 30th September next. There are obvious weaknesses in this assumption, but in conjunction with the figures for the yield per acre it can be used as a very rough guide to the value of the crop. In the appendix the 'harvest year' average price of wheat based on the fortnightly returns,

Howick Home Farm.

'Value per acre' of Wheat crop each year 1802-1833.



Note:- Years of abnormally high yields marked - ▲
Years of abnormally low yields marked - ▼

Years of very high price marked - △
Years of very low price marked - ▽

irrespective of the quantities sold at any given price, is given and then the value per acre based on this and the figures of yields.

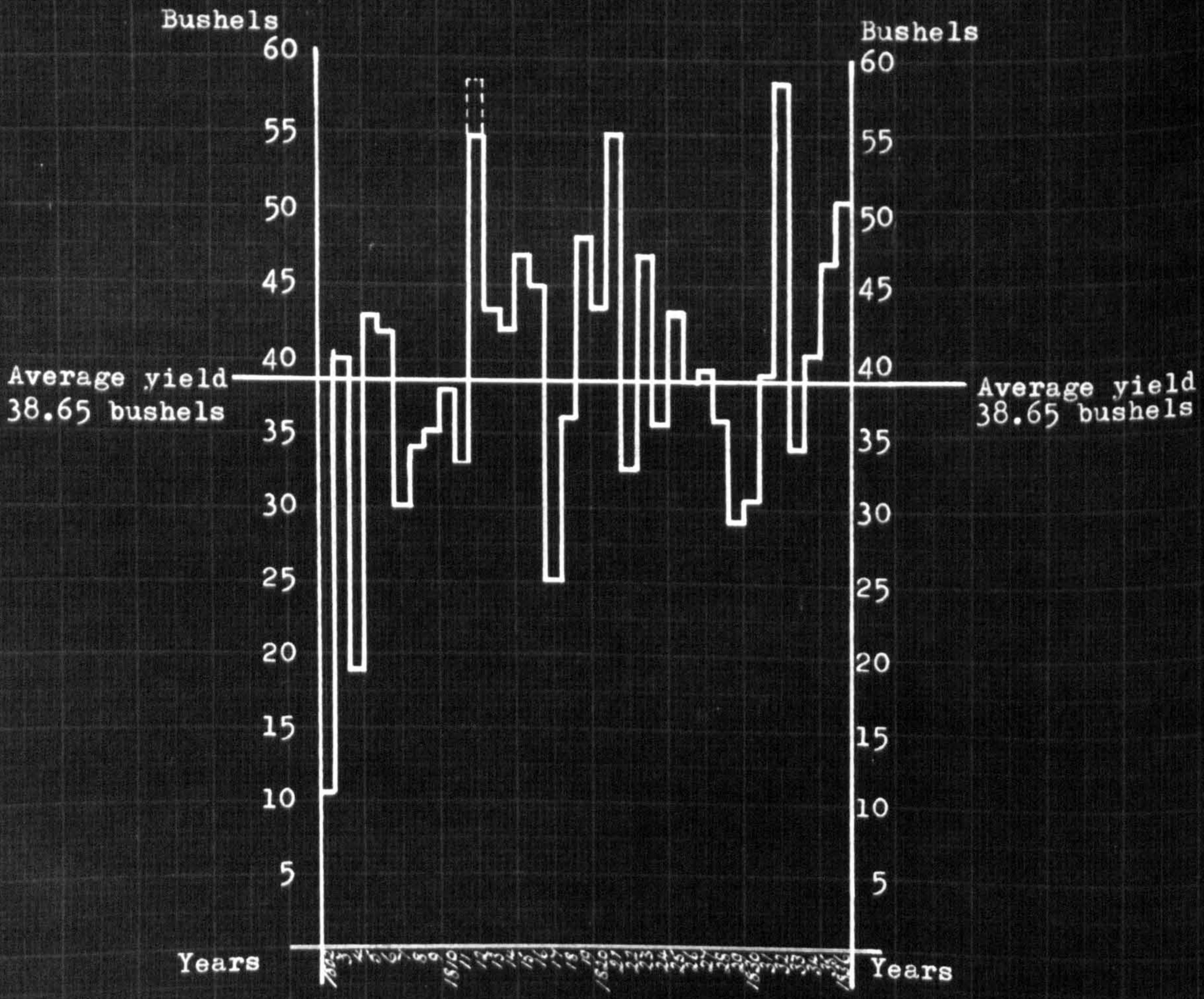
In the graph of this value per acre opposite the most obvious feature is the abnormally high values in 1812 and 1813 which are the only years in which both high prices and heavy crops coincide. Tooke[1] notes that the yields of that year were variable over the country, but 'making all due allowances the crops of grain generally.... appear to have been under an average'. It was the abundance of the crop at Howick allied with the generally poor crop over the rest of the country that produced this extraordinary figure of value per acre of £21.15. 6 which was 226% of the average for the thirty-one years on the graph. Even the average value of £9.13. 8 seems to be higher than one would expect, but against this the crop failure of 1809 and the low yield and prices of 1816 brought the value down to £5. 3. 4½ (55% of average) and £6. 6. 9(65.8%) respectively.

In more general terms it is noticeable that yields seem to exert a greater influence on value than prices, particularly in the first decade of the century, with a close correlation between high value and large crops and low value and small crops. In the post-war period this emphasis is lessened and the prices and crops balance each other out during most of the 1820s when the value is never less than 83% of the average and never more than 120%. How far this was due to the corn laws it is impossible to say as there is no means of comparing these figures with those of any other farm or area so that it may well be that as in 1812 the general pattern of harvest conditions is not applicable to this area and so the severity of the depression of the early '20s was escaped.

(1) Tooke History of Prices, Volumes I & II, page 324, in the edition of 1928.

Howick Home Farm.

Barley Crops. Yield per acre each year 1802-36



With all its limitations this series does give a much better index of agricultural prosperity and depression than the National Gazette prices can ever do, and the mere fact that of the years of highest value only 3 out of ten coincide with high prices, while of bad years only 1833 is one when prices are low is very significant. It will need, of course, a large number of such figures from different parts of the country before any national picture can be drawn, but for the coastal districts of North Northumberland this series makes a much more intelligible guide than any previously available. But even this has its shortcomings, as will be seen when we turn to examine the other major grain crops.

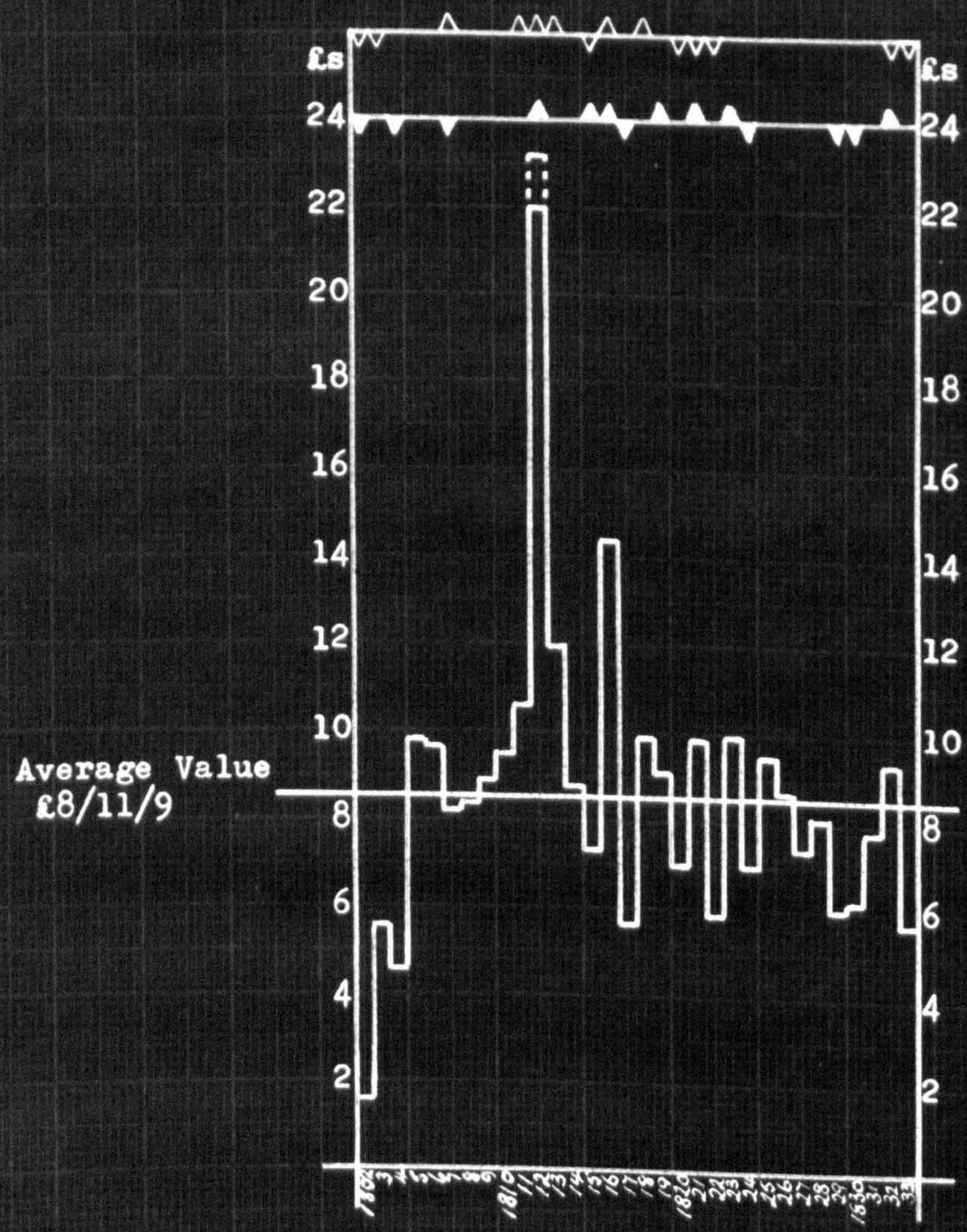
With barley and oats not so much detail need be attempted though in the appendix all the relevant information can be found. The amount of seed barley used is even more variable than was the case with wheat, ranging from 3.4 bushels per acre in 1821 to 1.7 bushels per acre in 1814, and in this case no long-term increase in the quantities used can be discerned. The yield similarly cannot be connected to the quantity of seed used, and unlike the wheat crop there is no variable between winter and spring sowing to affect either seed used or yields.

The graph opposite gives details of the annual yield per acre[1] and at once two things appear: The first that the range of variation is even greater than with wheat, and that the occurrence of good and bad years does not coincide between the two grains. The average produce was 38.65 bushels per acre over the period 1802-36 (both years inclusive), but ranged from as low as 10.5 bushels (27.2% of average) in 1802 to 58.5

(1) It should be noted, however, that the number of acres growing barley are so few that not much reliance can be placed on these figures as a more general guide.

Howick Home Farm.

'Value per acre' of Barley crop each year 1802-1833.



Note: Years in which the yield exceeded 45 bushels per acre ▲
Years in which the yield was less than 30 bushels ▼
Years in which the price exceeded 5/6 per bushel △
Years in which the price was less than 3/8 p.b. ▽

bushels (152% of average) in 1832. The sources give no indication of alterations in the quality of the grain from year to year, nor of the reasons for the fluctuations in the yield, but it must be supposed that climatic variations were almost wholly responsible for the latter, either directly or indirectly. If we take a longer term view there is a suggestion that yields rose, for in the period 1802-09 the average was only 32.9 bushels, while for the ten years 1825-34 it was 38.8, but even this may not involve anything more than a fortuitous series of favourable harvests.

The local price of barley, like that of wheat, is on the whole lower than the national average, though here again the difference is not constant, as can be seen if we take the period 1820-25 and compare the two prices:

Year	National Av. per Quarter	Howick Price per Quarter	National exceeds Howick by	Howick exceeds National by
1820	33/10	28/-	5/10d	
1821	26/-	26/6		6d
1822	21/10	27/-		5/2d
1823	31/6	29/-	2/6d	
1824	36/4	34/8	1/8d	
1825	40/-	33/4	6/8d	

In addition to this difference between the local and national prices it is also important to notice that the movement from one year to the next is not the same in both grains. For example, while in 1822 there was a sharp drop in the price for the harvest year as compared with 1821 (5/7½ per bushel as against 7/-) in wheat, in the case of barley both years are very low in price but 1822 is slightly better.

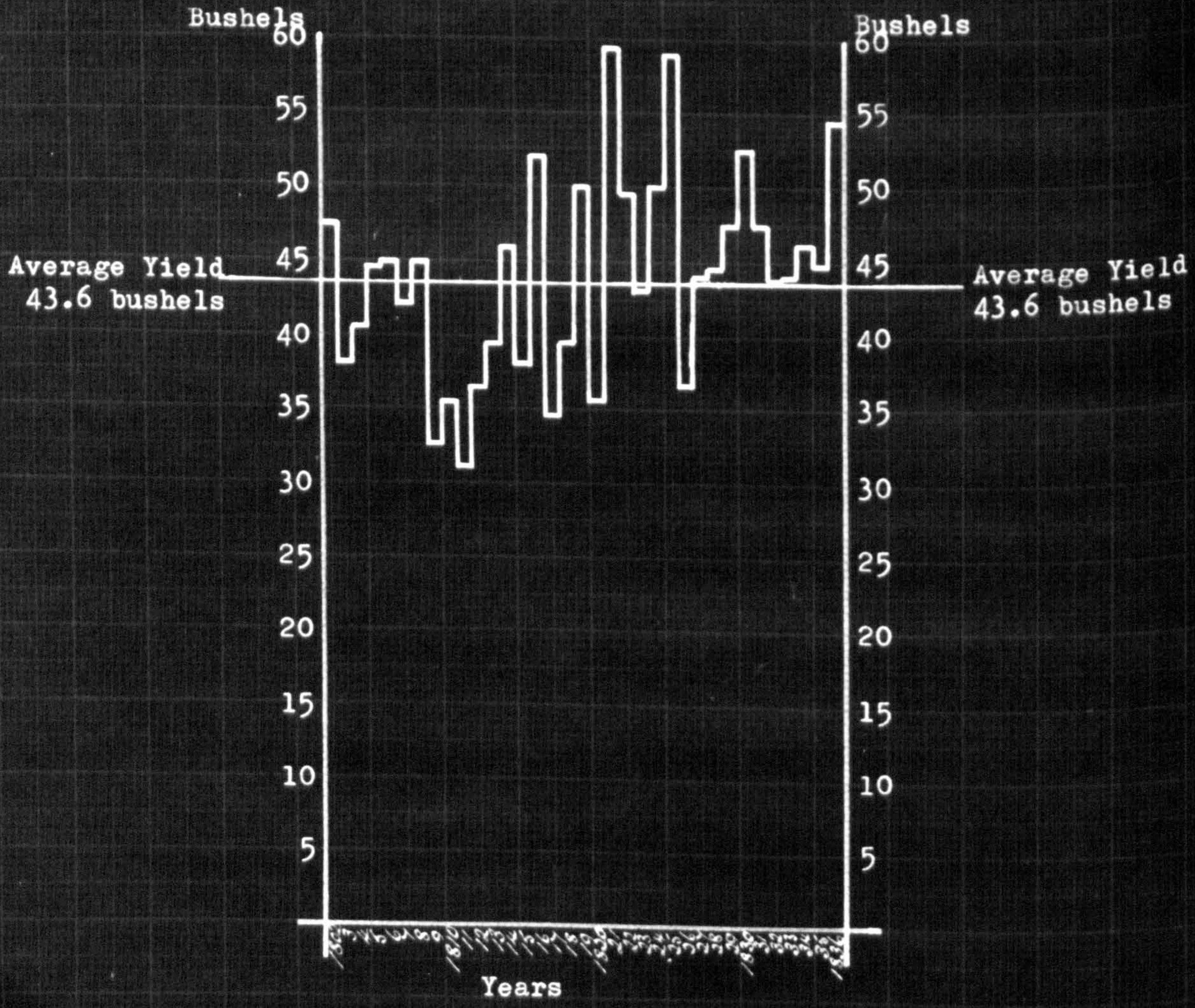
The combined effect of these two differences - yield and prices - means that the value per acre as shown in the graph opposite does not combine high values in both grains in the same years. Thus, although 1812

is abnormally high in both cases, in 1816 we find that wheat is very low (65.8% of the average), for barley that year was second only to 1812 in point of value at £14. 8. 3 (149.5% of average). On the whole there would seem to be a greater drop in value in barley in the 1820s than had been the case with wheat and not the same balancing of prices and yields to maintain values.

In the case of oats there are again certain differences to be noted as well as the similarities. The quantity of seed used is rather less variable, ranging only from 4.27 bushels per acre (1819) to 5.65 in 1828, and there is no long-term alteration in the quantity used. Nor can any relationship be established between the use of more seed and a heavier crop, for example in 1821 5.34 bushels of seed produced 59.5 bushels crop, while in 1815 5.08 bushels of seed only produced a crop of 38 bushels. On the next page the annual yield per acre is given which differs again from either wheat or barley in the incidence of good and bad years. If we compare oats with wheat over the thirty years for which figures are given, it appears that of those years, when wheat produced more than 30 bushels, in only one case (1821) was the yield of oats above 50 bushels. A similar lack of synchronization among the years of poor harvest can be seen and in some instances such as 1816 a good year for oats corresponds to a bad one for wheat. On the whole, the variations of the oat crop are smaller than in the other two grains, particularly as regards poor years in which the worst is only 71.3% of the average for the whole period (1811 31 bushels per acre). The best year, 1821, when 59½ bushels were produced was 136% of the average yield of 43.6 bushels per acre.

Howick Home Farm

Oats Crop. Yield per acre each year 1802-36



In respect of prices there is a noteworthy distinction as a result of which the price of oats is on the whole higher than the national average, though again the degree varies.

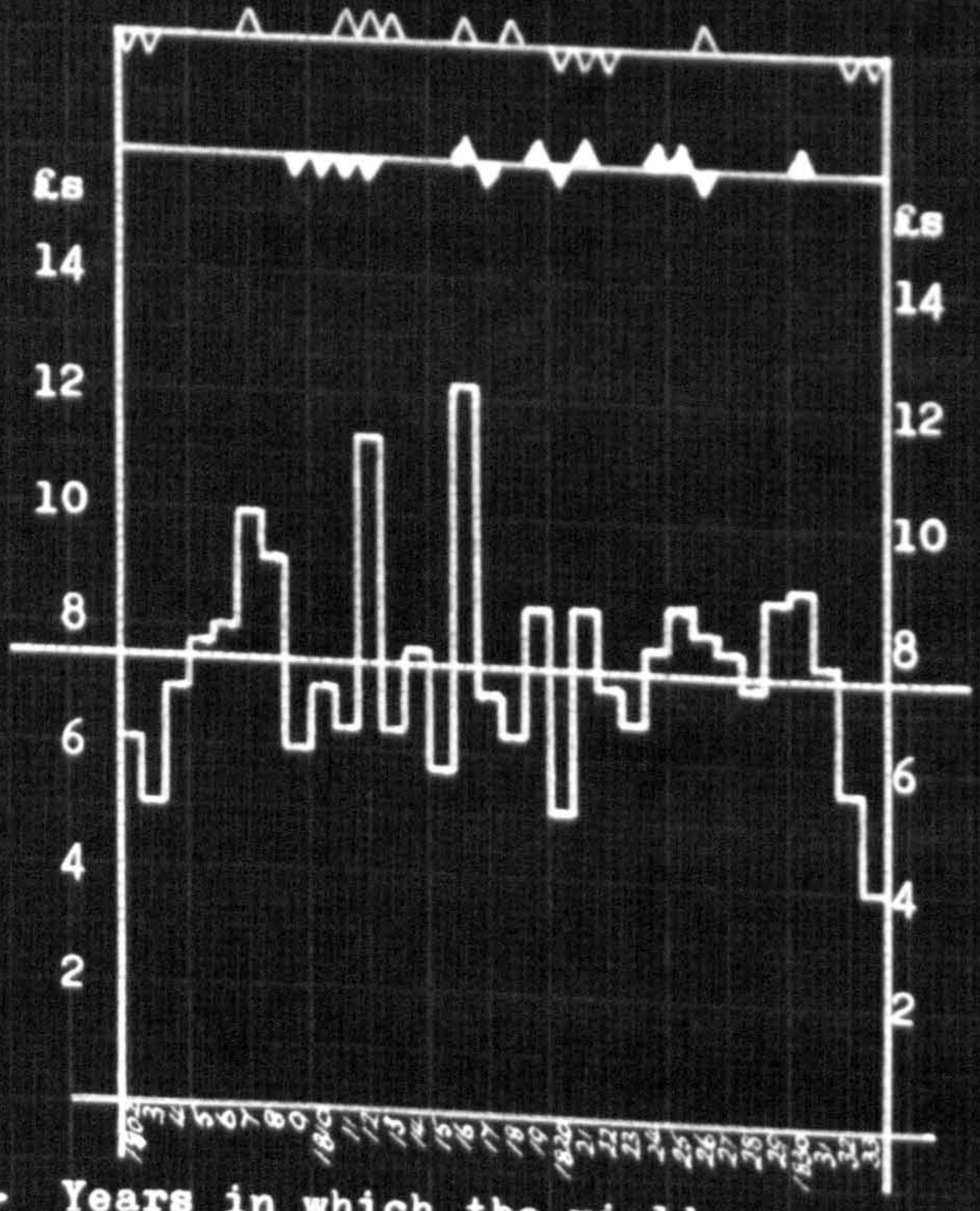
Year	National average per Quarter	Howick Price per Quarter	National exceeds Howick by	Howick exceeds National by
1820	24/2	25/4		1/2d
1821	19/6	22/4		2/10d
1822	18/1	21/10		3/9d
1823	22/11	22/8		3d
1824	24/10	25/-		2d
1825	25/8	25/8		Equal

There are three explanations for this that are suggested by contemporaries, the first that the quality of Northumbrian oats (like that of the Lothians) was superior and as such commanded a higher price on the London market; the second that human consumption of this horse fodder was not confined to Scotland but common in North-Eastern England; and, thirdly, the requirements of the coal trade for horses both above and below ground were very heavy indeed. Of these three the last was possibly the most important and is a good example of the interaction of agriculture and industry. It is certain that the price at Howick seems in the case of oats to bear a much closer connection with the yield of the previous year than with the other two grains; the poor harvest of oats in these parts in 1826 producing a sharp rise in local prices in 1827 which is not found nearly so markedly in the national figures.

When, as before, the price and production are combined to give a value per acre, the first thing that strikes one is that there are far narrower limits between the best years and the worst. 1812 is not outstanding to the same degree (in fact 1816 is a better year) and there is not the same pattern of changing values as could be observed in either of the

Howick Home Farm.

'Value per acre' of Oats crop each year 1802-1833.



Note:- Years in which the yield exceeded 50 bushels p.acre ▲
Years in which the yield was below 38 ditto ▼
Years in which the price exceeded 4/3 per bushel Δ
Years in which the price was below 3/- per bushel ∇

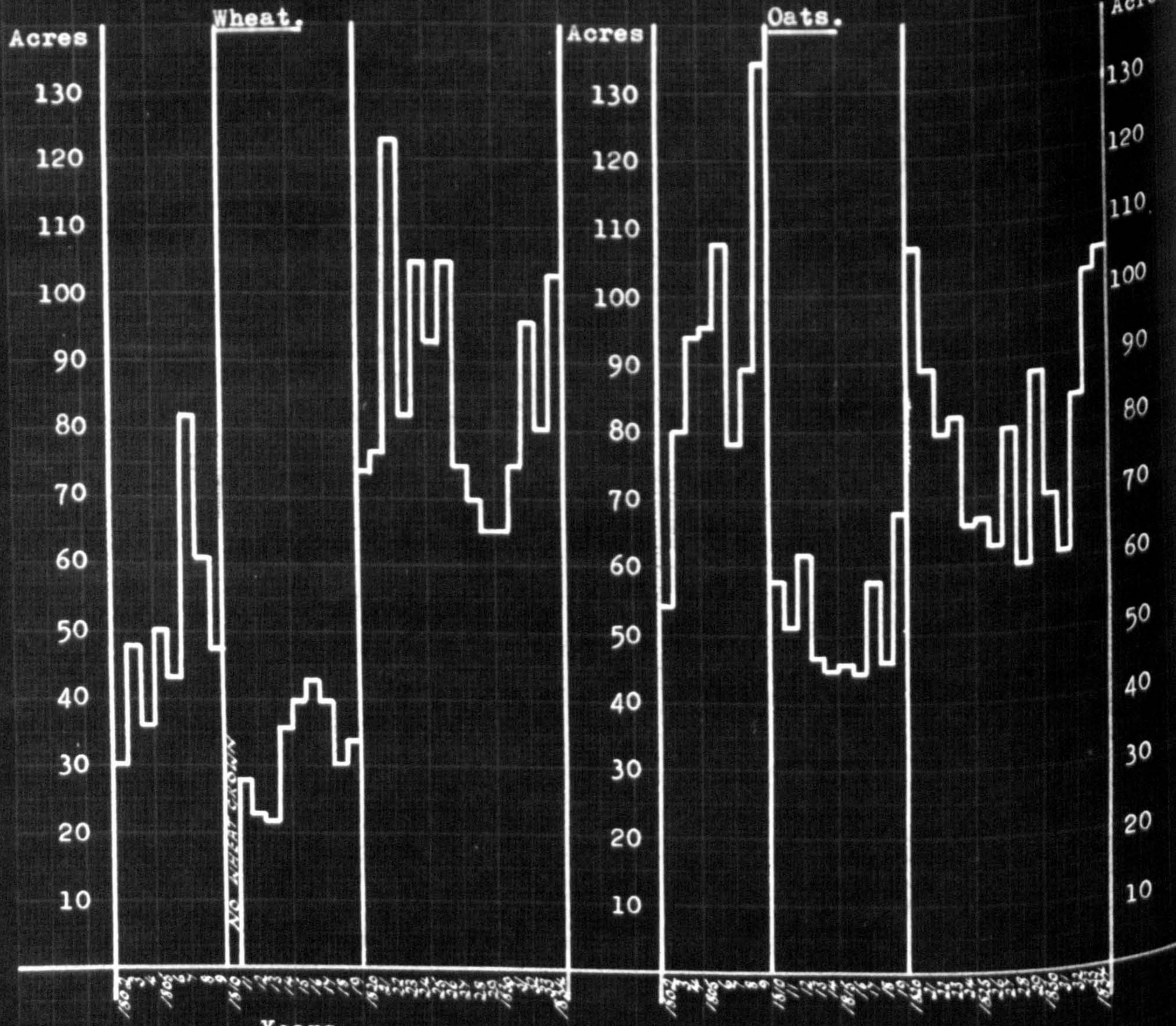
other two. The average over the whole period is lower than the others at £7.10.10, the lowest year, 1833, at £4. 0. 6 (53.8% of average) and the highest was 1816 £12.4.10. The graph of all these will be found on the next page.

What points of interest emerge from this analysis of the grain crops of Howick Home Farm? The first is a negative one:- That no reliance can be placed upon the National Gazette Price of wheat as a guide to the prosperity of any individual farm or area. The positive points are connected with this:- That the yield per acre varies quite as much as the prices in the early 19th century, and the value per acre of the crop is often more influenced by these changes in yield than an alteration in the price. Lastly it must be noted that although there is a fairly constant relationship between the prices of the three grains, the yields and values possess no such constant relationship.

Thus to determine the prosperity or otherwise of an area it is necessary to have information on local prices, local yields and local farming practices. If the proportion of wheat to oats grown is 50:50 (as when the rotation is fallow, wheat, clover, oats), certain years will be poor ones which may not coincide when a five course (Northumbrian) system is used in which the proportion of wheat to oats is 1:2. If a farm on a four course rotation was given the same value per acre for its grain crops as those calculated for Howick for the period 1802-1833, the five best years would be (in order) 1812, 1813, 1805, 1804 and 1819; if a five course rotation were employed the best years would have been different - 1812, 1816, 1813, 1805 and 1821. It may well be that the silence of Northumberland before the various committees inquiring into

Howick Home Farm.

Number of acres of Wheat and oats 1802-34.



Note: In the years 1810-19 (both inclusive) the farm was smaller.

agricultural distress arose from nothing more than the simple fact that the Northumbrian farmers who depended far more on oats than wheat were not distressed at the same time as those who were more dependent on wheat.

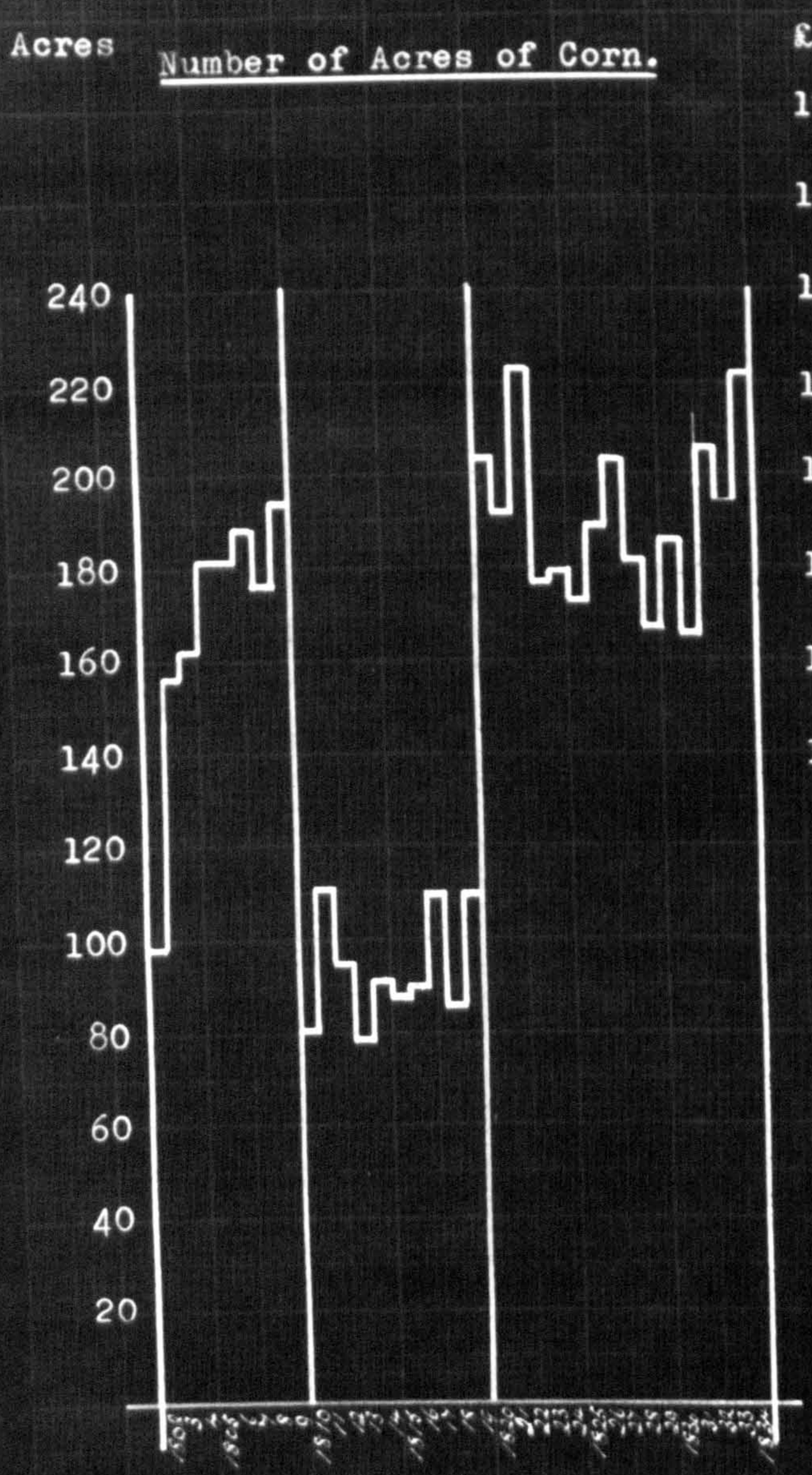
At Howick there was no schedule laying down a predetermined rotation or a maximum for the total number of acres devoted to grain growing as there would have been for a tenant holding under nearly every landowner in Northumberland by that date. In the absence of this the number of acres devoted to each crop, as well as the total under the plough, varied considerably without any strict adherence to a rotation being followed. On the larger farm (of the years 1802-09 and after 1820) the number of acres ranged from 98 in 1802 to 214 in 1822, and on the smaller farm of the decade 1810-19 it ranged from 66 (19.6% of the total area of the farm) in 1810 to 110 in 1817 and 1819, (32.8% of the total).

Within these changes in the total area under the plough there were many variations in the number of acres of the three main grains. In the period down to 1821, irrespective of the size of the farm, oats are unquestionably the largest crop with wheat second and barley only being responsible for less than 20% of the acreage in tillage. In a few years beans and peas were grown, but prior to 1826 they were never responsible for more than 15 acres and were not grown as a commercial crop but largely experimentally for horse fodder. After 1822, as the graph opposite shows, wheat became more important (in the number of acres devoted to it) than oats, till in 1824 it was nearly 59% of the tillage land when oats were less than 37%. In the Appendix all the figures for the number of acres of each grain are given, but there is no need to discuss them further here.

All that now remains is to examine the actual income in terms of cash

Howick Home Farm.

Number of acres in tillage each year 1802-34.
Nett Income from Corn each year 1803-35.



from all the various grains. In the farm account books a separate account is kept of the corn in which certain items cannot be considered as more than book-keeping entries. For example, the grain consumed on the farm by the horses, at the House by either the human occupants or the poultry, the grain given as part of their wages to the hinds, and that used by the gamekeeper both for his horse and his young birds are all included at market price as well as that actually sold. In many years these book-keeping entries may be responsible for almost the total income attributed to the corn account. In 1803 the draught horses consumed oats to the value of £154, the House wheat to the value of £61, oats consumed by the saddle horses and the House came to £160 and poultry and pigs were responsible for over £50 of various types of corn. Thus in that year the total gross income in the books of £425 was made up entirely from these sources. There was some grain also bought for seed or when there was a temporary shortage of threshed grain of one sort or another so that the income from corn is a net income.

The graph opposite gives the figures for both the total acres growing corn each year and the net income and the wide variations in both is at once apparent. There is in very general terms, as one would expect, a correlation between the number of acres and the income, but a closer examination proves that this was no more than a rough one. If the acreage of one year is compared with the income of the next year (in which the bulk of the grain would be either consumed or sold) it can be shown for example that although the number of acres in 1825 and 1826 are roughly similar with 173 in the former and 189 in the latter, the income in the years 1826 and 1827 varies much more from £789 in the one to £691 in the

other. Unfortunately there is no means of knowing exactly how much stock of grain was carried from one year to the next, or even further, so we cannot be certain that the large income in a year such as 1823 is nothing more than the receipt for the harvest of 1822 and 1823.

With all its defects, however, it becomes abundantly clear that in addition to the calculated variations in value per acre of corn in these years, there were in fact very great fluctuations of actual income. If these variations at Howick can be used as any sort of guide for other farms they show clearly the size of the problem facing the tenant farmer in the early years of the 19th century.

Cattle and Sheep

The other main sources of income on Howick Farm were the livestock and I shall deal with the cattle first. The herd was principally kept for providing milk to the House and beef for the House and the open market. The best method of finding out about it is to take the accounts for one year and discuss the points that emerge from those accounts. In January 1804 there were on the farm 130 heads of cattle valued at £1,798 and a year later the number had dropped to 118 which were then valued at £1,621. During the year a number of purchases were made from various sources and sales of fat stock to Howick House and also on the open market.

'Black Cattle account for the year 1804.' (1)

1. PURCHASES.				
(a) Calves			eight bull calves @ £2/2/- each	£16.16. 0
			five quoy calves @ £2/2/- each	10.10. 0
				27. 6. 0
(b) Steers	February.	5	@ £19 each	95. 0. 0
	May.	4	@ £23 each(10/- returned)	91.10. 0
	June.	6	(average price £17/12/6)	105.15. 0
				292. 5. 0
(c) Oxen	June.	2	(average price £25/14/-)	51. 8. 0
	October.	7	(average price £17/2/10)	120. 0. 0
				171. 8. 0
(d) Milk Cows.	November.	1	(new calved)	20. 0. 0
	December.	1		13.13. 0
				33.13. 0
(e) Kyloes	October.	12	@ £6/15/- each at Newcastle Fair	81. 0. 0
Total Purchases (including 7/6 driving costs)				£605.19. 6
2. SALES.				
(a) Calves			two (very sickly ones)	1.12. 6
(b) Oxen	January.	2	and 1 cow (Mr.Ratcliff)	76. 0. 0
	May.	4	@ £36 (Mr.Ratcliff)	144. 0. 0
	July.	15	@ £31 less £1/10(Mr.Ratcliff)	463.10. 0
	August.	5	@ £25 less 15/-(Whittingham Fair)	124. 5. 0
	September.	7	(Various prices)(Mr.Wigham)	163.10. 0

(1) In the Appendix figures of the stock on hand each January and the gross income and expenditure as well as the balance of income will be found on pages .

'Black Cattle Accounts for the year 1804' (Continued)

SALES				
Brought over		(a) Calves		£1.12. 6
		(b) Oxen (Less 10/- not paid)		971. 5. 0
(c) Bulls.	1 five years old	(Mr.Werge)	£45. 0. 0	
	1 one year old	(Mr.Younghusband)	10.15. 0	55.10. 0
(d) Kyloes.	8 (as beef) to Howick House		81.14. 7½	
	14 and 1 calf	(Mr.Lindsay)	165.14. 0	247. 8. 7½
(e) Misc.	1 ox and 1 cow for Charity at Christmas			35.18. 3
(f) Skins.	1 ox. 1 cow, 9 kyloes and 1 quoy			14. 9. 2
(g) Tallow.	23½ lbs. @ 6d per lb.		11. 9	
	7 st. 5½ lbs. @ 7/6d per stone		2.15. 5	3. 7. 2
Total Sales				£1,348.11. 8½
Total Purchases				605.19. 6
Balance				742.12. 2½
Less decrease in value of stock				177. 7. 0
Net profit on cattle account in 1804				565. 5. 2½

I shall deal with each of the sub-headings of these accounts in turn starting with the calves. There were of course a number of calves produced each year by the milk cows belonging to the herd, but in addition to these some were bought in from the hinds who worked on the farm and had the keep of a cow as part of their wages. The figure of two guineas per calf never varied between 1802 and 1809 when this practice ceased. After that date, for ten years, it was normal to sell off all those calves that were not needed as replacements for milking cows. In the 1820s though this system was changed the number of purchased calves never rose above five in any year till 1830. The bulk of the bull calves were castrated (at a cost of 1/- per head) and in the first few years till 1806 some of the quoy calves were also neutered at the same price to

become 'Spayed quoys'. The object of this was two-fold, firstly to increase their strength for inclusion in the draught team which continued in existence till the death of Sir Henry Grey in 1806, and secondly to make them produce more meat at an earlier date. The exact nature of the operation is not revealed but its danger can be judged by the fact that while between 1802 and 1805 not one bull calf died as a result of castration out of over twenty cut, at least two quoys died out of 14 as a direct result of being cut. The last points to be made concerning calves are that although the family at the House were very fond of veal they were always supplied with that by the Alnwick butcher and never from home killed calves unless the calves concerned were already past hope of living (as was the case presumably with the two mentioned in the account for 1804). Throughout the period it was the practice to try to have all the cows dropping their calves between the last fortnight in November and the end of April and they were called calves until the January following in the fortnightly returns.

From that point it is convenient to turn our attention next to the bulls kept with the herd. It had been the practice of Sir Henry Grey to keep a high quality bull at the Home Farm for the use of the tenants on his estate; 1804 saw the end of this with the sale of the five year old bull to one of his own tenants for £45. After that date till 1809 a small number of young bulls were reared on the farm, but none of them seem to have been valuable animals, and in May 1809 the last two were sold. The first, a three year old, fetched £17.15. 0 and the other, a two year old, only £11. Thereafter the cows of the home farm herd were sent to local bulls to be served; in 1811 £1.18. 6 was paid for having 5 served

and in 1823 and 1824 £2 and £2.15. 0 for 8 and 10 cows respectively.

No record survives of the milk yield of the cows whose numbers alter in proportion to the size of the 2nd Earl's family and the length of time spent at Howick. Between 1802 and 1830 the number varies between 9 in the early months of 1807 and 20 in 1814. In some instances they can be traced to their fifth and even sixth calf, and it is interesting that fashions in cows' names have changed very little in the last 150 years with Sally, Bella, Betsy and the like occurring year after year. In the summer months, some of them would be used solely for rearing calves, both their own and those bought in, and any surplus milk would be made into butter and salted down or sent to London. In the accounts both of the farm and for housekeeping, no figure is given for the value of the dairy products so that on that side the economics of the herd are incalculable. From the records of purchases and sales the value of milk cows can be seen to have varied greatly. In the years 1802-3-4-5 the highest price received or paid was £28 each for two sold in 1805 and the lowest £13.13. 0 given for one in 1803. In 1809, when the herd was broken up, eight were sold, the highest price being £31. 5. 0, the lowest £13. 2. 0, and the average nearly £19.10. 0. Over the period as a whole from 1802 to 1830 it is difficult to find any long-term changes in values, which could not be explained by information on the age and status of the cattle concerned rather than outside economic factors. Within these wide ranges the evidence in local Newcastle papers suggests that there was nothing unusual in the prices at Howick that would suggest a generally higher quality of animal than the normal.

Before dealing with the beef animals (both Kyloes and the Steers and

oxen) it is worth mentioning the by-products of slaughtering-skins and tallow. The price of Kyloe skins was almost constant for thirty years at between 20/- and 25/- depending on size and quality and they were invariably sold to a local merchant in Alnwick. Some of the tallow was consumed locally and sold by the pound at from 5½d to 7d per lb., but the bulk was sold to an Alnwick tallow chandler by the stone (of 14 lbs.) for between 6/6 and 7/6 per stone. The quantity of tallow was obviously dependent to a great extent on the fatness of the beast in question, but, as an example,in January 1805 a kyloe weighing (dead weight) 26 st.12 lbs. for which £10. 1. 6 was received for the meat at 7/6 per stone, also produced a skin which sold for 26/- and 2 st. 12 lbs. of tallow which at 7/- per stone brought £1. 1. 8. Because of this there should be added almost always about £2 to the value of the meat of any kyloe killed for the House for the offal.

Beef production fell naturally into two sections, the first Kyloes and the second Black Cattle. Kyloes, as stated in the glossary, were a small breed of Scottish cattle which were driven over the border in the late summer and autumn and sold for fattening at the various Northumbrian markets, but in particular at the Newcastle fair at the end of October. It was there, although nearly fifty miles from Howick, that each year a number of these animals were bought. In the early years of the century the purchase price varied between £6.10. 0 and £7 per head, and after 1820 fell as low as £6. 7. 6, but then rose again to about £6.15. 0. Obviously it would be unwise to generalise on the evidence of one series of purchases, but here again the amount paid by the Earl Grey agrees in the main with the prices recorded in the local papers. Having been

bought they were then kept for at least a year and in most cases for between 18 months and two years before being either sold to the local Alnwick butcher (Mr.Lindsay from 1802 - 1807) or killed for consumption at the House. Even when fat they never produced a lot of meat but for the use of a family and establishment such as that at Howick there were obvious advantages in not having to deal with too great a quantity of meat at one time. In 1803 the average dead weight of the seven killed at the House was 29.2 stones, the heaviest being 34 stone and the lightest 25. This meat at about 7/6 per stone made them worth, besides the £2 for offal, between £10 and £14 per head. To show the increase in their value I shall give the annual figures of purchases and sales for the three years 1802-3-4, but unfortunately no figure for the value of the offal is available for the first two so that approximately £35 should probably be added.

Kyloes: Purchases and sales 1802-3-4.

Purchases		Sales		
(Stock,Jan.1st 1802: 37)		1802	11 Howick House	£118. 6. 6
1802:10 bought @ £7 each	£70. 0. 0		14 Mr.Lindsay	162.19. 6
(Stock Jan.1st 1803:21)		1803	7 Howick House	80.15. 6
1803:27 bought @ £6.12.6 each	172. 5. 0		10 Open Market	141.15. 0
(Stock Jan.1st 1804: 30)		1804	8 Howick House	81.14. 7½
1804:12 bought @ £6.15.0 each	81. 0. 0		14 Mr.Lindsay	165.14. 0
(Stock Jan,1st 1805: 19)				

From that it can be seen that while the average cost price was about £6.15. 0 per head, the average selling price was nearly £13.10.0, or virtually double. As such they were an excellent proposition for any farmer who had sufficient pasture to fatten them on and even allowing one beast per acre, which was the normal at that time for valuation purposes

of reasonable quality grass land this would show an income of about £5 to £6 per acre per annum which can be compared with that for corn crops and which was a net rather than a gross figure. In the 1820s the number of kyloes kept on the farm was increased till in January 1825 there were 86 and by 1830 90 of these small but economically efficient animals were being kept. As prices of beef kept up in the post-war years, and in particular the margin of profit in Kyloes remained steady, they became increasingly important as a riskless source of income.

A similar though rather less impressive story can be told for the 'Black Cattle'. Nothing is known definitely as to what breed they were, but in general Black Cattle seems to be used as a description of Short-horned cattle irrespective of their colour in Northumberland by this date. Bailey in his 'General view of the Agriculture of the County of Durham', published by the Board of Agriculture in 1810 gives a list of the great beef beasts that were the precursors of the famous Durham Ox, and among them is the name of Sir Henry Grey's roan heifer 'Howick Beauty'. Thus there was already at Howick a tradition of beef breeding by 1802 when both the accounts and the fortnightly returns start, but this was inclined to be breeding big irrespective of the time taken rather than the trend, coming in with Colling and Mason and later Thomas Bates, of early maturity. Thus in the early years there were at Howick a number of oxen of four, five and six years old, but by 1809 there were only 3 four year olds, as compared to 14 three and 10 two year olds. An additional reason for keeping older animals was the attachment of Sir Henry to ploughing with oxen, and a team of working beasts consisting of seven oxen and a sprayed working quoy was maintained until 1806. Though many of the steers were

bred on the farm, purchases had to be made from time to time, but unlike the Kyloes it is not possible to state exactly the increase in value from one year to the next. Some indication can be had from the valuation of stock in January 1804 in which the beef animals other than Kyloes are valued thus:

4 oxen	@ £32	each	£128	? draught animals
4 oxen	@ £25	"	£100	? draught animals
16 oxen	@ £20	"	£320	? four year olds
7 steers	@ £16	"	£112	three year olds
13 steers	@ £12	"	£156	two year olds
14 steers	@ £5	"	£70	one year olds
2 spayed quoys	@ £15	each	£30	three years old
5 spayed quoys	@ £12	"	£60	two years old
4 spayed quoys	@ £5	"	£20	one year olds

Total valuation £1,016 (This should be £996 but I have preserved the original figure).

In this valuation bullocks increase in value from £5 to £12 from being one year olds to being two, from £12 to £16 from two to three, and from £16 to £20 from three to four years old. How far these valuation prices were in accord with actual ones it is not easy to determine as they are obviously of a rough nature and do not take any account of the different quality of beasts of the same age. If we take the purchases and sales in the one year 1803 a clearer idea may be gained of market prices.

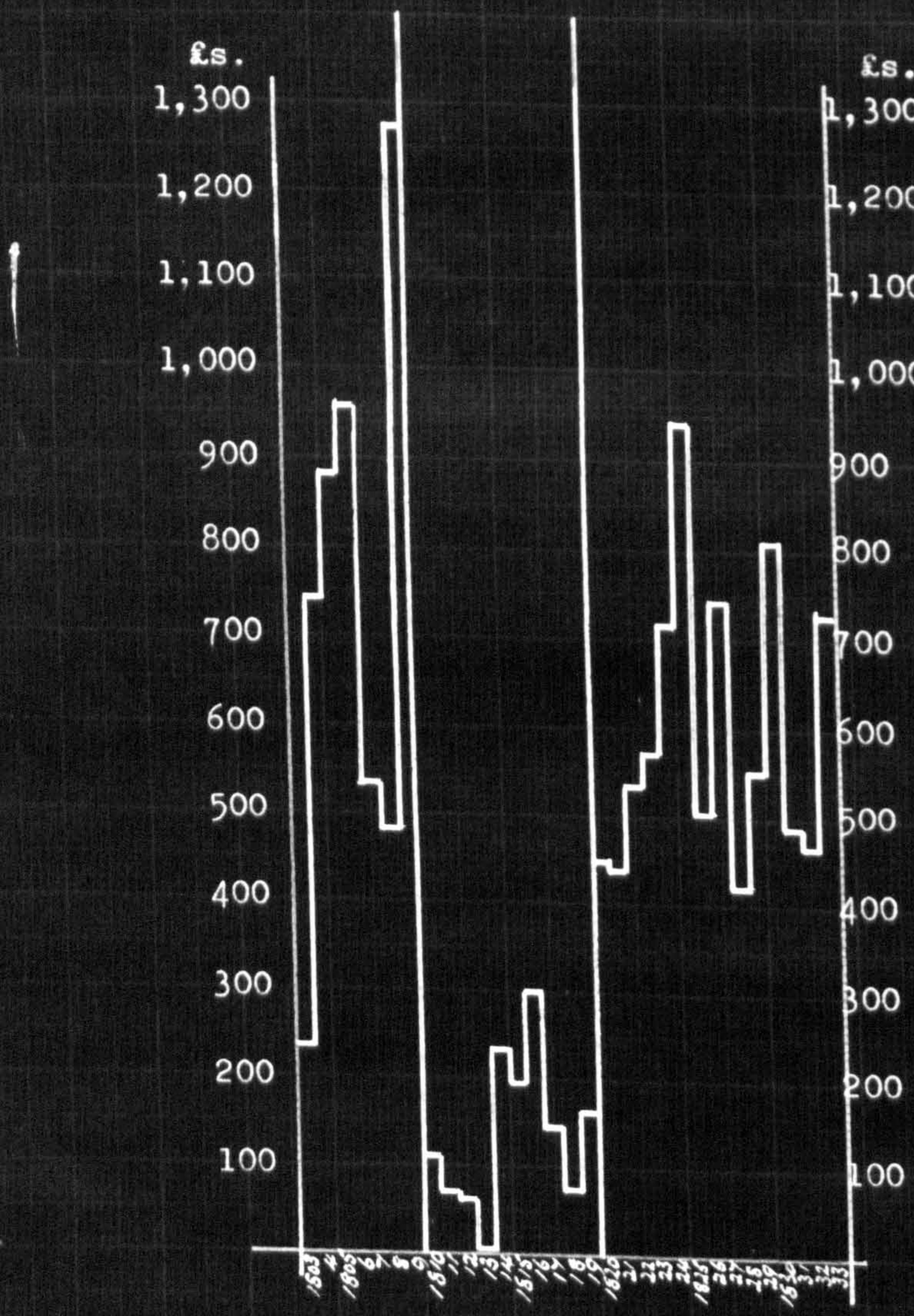
Purchases and sales of Steers and Oxen in 1803:

Purchases

Month	Description	Per Head	Total
March	5 steers three year old	£15. 0. 0	£75. 0. 0
	1 steer three year old	14.10. 0	14.10. 0
April	4 steers three year old	15. 0. 0	60. 0. 0
May	5 steers ? three year old	23. 0. 0	95. 0. 0
	2 steers three year old	16. 2. 6	32. 5. 0
June	6 steers three year old	15.18. 0	95. 8. 0
March	7 oxen ? four year olds	19. 0. 0	133. 0. 0
April	10 oxen four year olds	18.10. 0	185. 0. 0
May	2 oxen four year olds	19.10. 0	39. 0. 0
	4 oxen ? four year olds	21.17. 6	87.10. 0
June	4 oxen	15.18. 0	95. 8. 0

Howick Home Farm.

Annual nett income on 'Black Cattle' account
1803-1833.



N.B. These figures do not take into account changes in the stock from one year to another.

Sales Month	Description	Per Head	Total
Jan.	2 spayed quoys 3 year old	£20.0. 0	£40. 0. 0
Feb.	4 oxen (? over four years old)	33.15. 0	135. 0. 0
May	4 oxen (? ditto.)	33.10. 0	67. 0. 0
June	2 oxen (? ditto.)	46.2. 6	92. 5. 0
Sept.	6 oxen four year olds	22.5. 0	133.10. 0
	6 steers three year olds	22.5. 0	133.10. 0
Oct.	4 oxen four year olds	20.10. 0	205. 0. 0
	6 steers three year olds	20.10. 0	
Nov.	6 oxen four year olds	24.0. 0	144. 0. 0
Dec.	2 steers three year olds to the poor (value)		35.11. 5

In that list can be seen the last few cases of the old methods of Sir Henry in which cattle were kept until they were of a considerable age and a great weight and were then sold for sums up to the £46 there recorded; in its place, by the end of the year, the new method in which animals were sold at three year old had been introduced. By 1809 there were no more oxen of over four years on the farm and at the sale in that year 11 steers were sold at an average price of only £11.11. 5 for two and three year olds. In the decade 1810-19 hardly any bullocks were kept on the smaller farm and it was not until 1821 that they were brought back in any numbers. After that date the number of purchases of steers was kept down to a low level and only those animals that were reared on the farm were used to replace the fat stock sold. Even with the restricted method of farming, beef production remained a surprisingly constant source of income per head of cattle kept throughout the first thirty years of the 19th century.

The graph opposite gives the annual income from cattle (net) each year from 1803-1833, but it should at once be noted that no notice is taken in those accounts of the alteration in the number and value of the stock on the farm at the beginning and end of each year. From 1804 to

1809 a valuation was carried out of the stock on the farm on January 1st each year, but after that date if such a valuation was made I have found no trace of it among the farm records. Although there is no valuation, the first fortnightly return of each year does of course contain a list of the numbers of each type of stock then present which can be used as a rough guide. When these changes are taken into consideration, most of the larger fluctuations are removed, in so far as a year of abnormally high income such as 1809 or 1830 can be shown to have been years in which the stock decreased greatly. The reverse is the case in 1818 and 1819 during which years the stock was built up for the larger farm taken over in 1820. When this is taken into consideration, therefore, it becomes clear that the size of the fluctuations in income from cattle was of a totally different order to that found in corn. Prices both of store and fat cattle, though they vary considerably, do so largely as a result of variations in the quality of the animals involved and not because of fluctuations in the general market. The importance of this in considering the agricultural prosperity or otherwise of Northumberland becomes clearer as the 19th century advances and the farmers turn their attentions increasingly to beef rather than corn. Even by the 1820s the appetite of the miner and his family for local beef was becoming proverbial and, in this, as with oats for the colliery horses, the agricultural community found itself helped by the mining.

The flock of sheep at Howick produced revenue in three main ways: sale of wool, sale (so called) of mutton to the House, and sale of fat and draft animals to either the butcher or graziers. Against this income there were few expenses save the shepherd's wages and the purchases of

some mountain wethers for fattening. Only in a few years were there any large scale purchases made, when an attempt was made to improve the quality of the flock. This I shall discuss in some detail.

Nowhere is the size of the stone used for weighing wool given, but from the various entries it appears that it cannot have been other than 24 lbs. and not the conventional 14 lb. stone used for meat etc. The price per stone was not, however, the only factor in determining the income as there would seem to be some alteration in the size of the fleeces. In 1802 it appears that 450 sheep of various ages were clipped and produced 75 st. of wool, which was equivalent to approximately one-sixth of a stone per fleece (or 4 lbs.). By the next year the flock had been almost completely changed to the improved kind and then the average weight of the fleeces rose by one-quarter to 5 lbs. per fleece. I shall return later to the changes in the price of wool and only mention here that the value per fleece varied from about 4/- in 1802 to over 9/- in the peak year 1818. Dependent on the size of the flock and the price of wool, the income ranged between £100 and £150 prior to 1810, and from £100 to £200 between 1820 and 1830.

In 1803 the costs of removing the clip were made up of three items: On June 3rd 2/- was paid for washing the sheep, on the 10th of June two men were paid £2. 8. 0 for clipping for eight days at 3/- per day each, and on the same day a further 6/- was given to the same men for ale consumed while shearing. Thus, except for the costs of grazing, which were never calculated, almost the whole of the income from wool could be considered as profit.

I have already mentioned that in 1802 the flock was completely

changed, and it is worth while examining this change in detail. In January 1802 out of the 312 ewes 200 were described as 'Mountain Ewes' and the remainder as 'Home Ewes'. A year later there were only 11 mountain ewes left and the others had increased to 220, and by 1804 there were no mountain ewes left at all. A list of the major sales and purchases in 1803 illustrates the improved nature of the new ewes.

'Major sales and purchases in the year 1802:

Oct.	Bought from Stephen Patterson 40 ewes @ 55/-	£110. 1. 0
	Bought from Wm.Watson 40 ewes @ 60/-	120. 1. 0
	Bought from Mr.Smith 20 ewes @ 63/-	63. 1. 0
July.	100 mountain lambs @ 17/6	87.10. 0
	24 'shot mountain lambs' @ 11/6	13.16. 0
	100 mountain lambs @ 21/-	105. 0. 0
Sept.	180 mountain ewes @ 34/6	310. 0. 0 '

The replacement of ewes which could only sell for 34/6 by others costing about 60/- was of course only part of the task of improving the quality of the flock; c f as much importance was acquiring the services of good quality rams. For this purpose an interesting method was employed by which rams were hired for a season and not bought outright. In the season of 1801 a ram had been hired from one of the best known breeders of the 'improved' sheep introduced into Northumberland from Leicestershire and the Bakewell flock by the Culley family in the last part of the 18th century. Joseph Atkinson of Wandon was paid £17. 5. 0 for the hire of one tup for the 1801 season, and for the next year a Mr.Roberts received £18.18. 0 for the hire of one of his. By the season of 1803 the increased size of the flock required that more than one ram was hired and in fact three were used, two of which came from Mr.Robertson for £19 each, and one from Mr.Luke Scott cost no less than £30. The practice continued for

the next year and also the habit of changing the breeder of the rams. The highest price was paid for the 1804 season of £40 and after that date no such figures were reached. The value of a ram that could support so high a price for one year's running with the ewes would be difficult to calculate, but it compares closely with that for a bull which could only command 10/- per cow served. A surprising thing about these hirings was that apparently no limit was set on the number of ewes with whom the ram was allowed to run. In the late summer of 1803, when there were 217 ewes and 70 ewe hoggs, the rams numbered three hired ones, two old ones and five tup hoggs, making, on the assumption that the hoggs were used, one ram to rather less than 30 ewes.

The fertility rate can be shown by examining in detail the lambing season of a typical year. In 1803 out of the original 219 ewes (improved type) two died in lambing, and 194 produced lambs. The rate of twins among these 194 was one ewe in three, so that in all 262 lambs were born. The season started in the last fortnight in February and continued until the third week in April,and in that year the losses were negligible, one was reported as killed and another taken by foxes on the 12th March, but they were the only losses. In most respects the same story could be told for every year,though in some the losses were rather heavier, but the lowland nature of the farm made it far less susceptible to loss than the mountain flocks.

If we trace this crop of lambs we can see the working of the flock clearly.(1) At the end of July, 50 of them were sold to Mr.Lindsay, the Alnwick butcher, and between then and the end of the year eight or nine

(1) In this a further 10 lambs produced by the few mountain ewes are included, as well as 7 purchased from the shepherd.

died naturally or were killed for the House. In December when their status changed, 98 became ewe hoggs, 103 wether hoggs and 22 ram (tup) hoggs. The ewes were kept to replace the draught ewes sold off during the late summer for about 40/- per head; as the number of breeding ewes was about 200 to 250 this would mean that they were kept for three seasons before being sold off.

When we turn to the wethers two fates can be seen to await them, the first that they were killed for the House and the second that they were sold off as dinmonts. In this case, however, the picture is complicated by the practice of buying in a certain number of wethers from hill farms in the Cheviots. In 1804, 90 of the 1803 lambed wethers were sold at 42/- each in the autumn, and the remainder either died naturally or were killed for the House. Most of the wethers consumed at the House seem to have been those bought in rather than those reared on the farm. In 1802, 60 were bought at 33/6 per head from the tenant of one of the large hill sheep farms on the Estate, and a further 10 were bought as wether hoggs for 36/- each. During 1803, 31 of these were consumed at the House and from the accounts the average weight of these was almost exactly 5 st., which at from 7d to 8d per lb. made them worth between 40/- and 46/- each. In addition to this, a further 2/6 to 3/- should be added for the value of the tallow and skin. The others which were not killed for the House were sold in September at 43/- per head to the same Mr.Lindsay of Alnwick. From this it appears that the margin of profit on these purchases was about 10/- per head, or nearly 30% on their cost price in 12 months.

In 1809 the flock was broken up and the particulars of the sale

are given below:

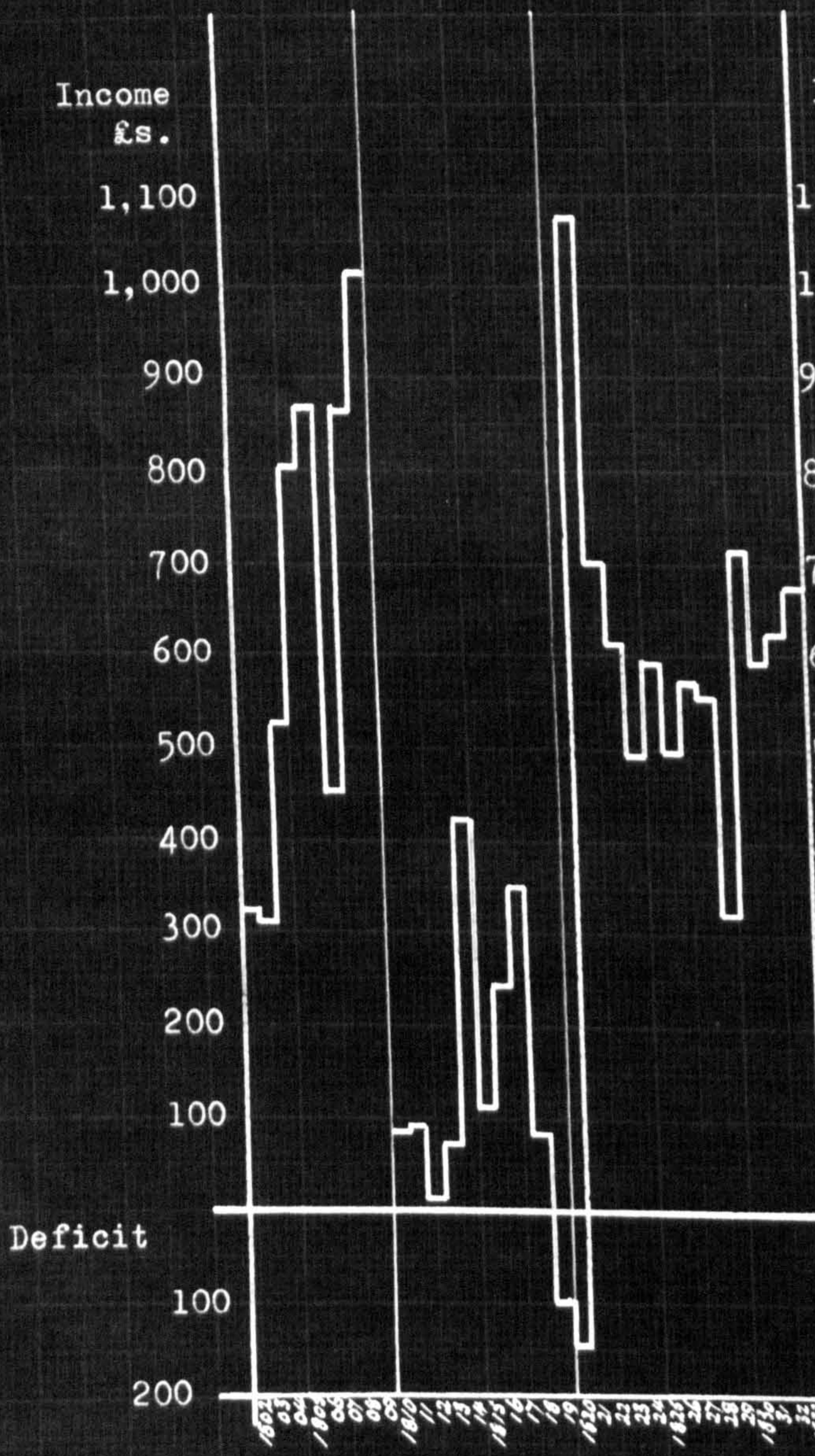
Particulars of the sale of Sheep: May 8th, 1809:

(a)	Ewes	160	Highest price 51/6 Lowest price 40/-	Average price 44/9	£358.15. 0
(b)	Gimmers & Lambs	58	Highest price 42/- Lowest price 36/-	Average price 39/-	110.16. 0
(c)	Wether Hoggs	100	Highest price 36/6 Lowest price 30/-	Average price 33/9	166. 5. 0
(d)	Ewe Hoggs	120	Highest price 34/- Lowest price 28/-	Average price 31/10	191.10. 0
(e)	Tups	13	Highest price £12 Lowest price £2/15s.	Average price £5.1.6½	66. 0. 0
(f)	Tup Hoggs	11	Highest price 57/- Lowest price 32/-	Average price 43/3	23.15. 0
Total		~~426~~ 462			£917. 1. 0

As with cattle there were alterations in the income from sheep from year to year which were caused by changes in the size of the flock rather than in market prices. The large sales of 1809 and the purchases of 1819 and 1820, when the flock was restored to its pre-1809 level, are responsible for the large scale alterations in income in those years. Unlike cattle, however, there is a much greater degree of change in the prices of the two end products - mutton and wool. The price of mutton paid at the House varied from a maximum of 9d per lb. in 1814 to only 4d in the late months of 1823, and even within these limits fluctuated markedly between 6d and 8d in the post-war years. With wool, the alterations were even greater, as can be seen from the table in which the prices for certain years are given for the stone of 24 lbs. for best quality wool (as opposed to the small quantities of broken wool sold at about half that price).

Howick Home Farm.

Annual nett income or deficit on the 'Sheep' account
1802-1833.



'Price received for Wool sold at Howick per stone of 24 lbs.'(1)

Year	Price	Year	Price	Year	Price	Year	Price
1785	13/6	1806	24/6	1816	21/-	1821/2	24/-
1788	16/-	1807	22/6	1817	27/-	1822	19/-
1802	24/-	1813	25/-	1818	46/-	1823	22/-
1803	23/-	1814	32/6	1819	33/-	1825	34/-
1805	28/-	1815	36/-	1820	33/6	1826	24/-

From this series, which probably could be extended to cover more than just Howick Farm and include many of the Lowland flocks of Northern Northumberland, some idea of the width of fluctuations can be gained.

The graph opposite gives the annual net income or deficit from the sheep account, but like that for cattle does not take into account any changes in the size of the flock. From it can be seen that here again there were wide differences. ~~even when the stock position changed only slightly~~. Part of this can be explained in that in some years large sales of draft ewes and wethers took place in the last weeks of the year, and in other cases in the first weeks of the next year, so that in some instances two 'crops' of wethers might be accounted for in one year and in another no sales recorded at all.

With this discussion of the sheep account we can leave the income of the farm in detail only noting that Swine were regularly kept and produced, in the form of meat sold to the House, an annual income of about £100 to £150 per annum. The only other item of income was referred to as contingent and will be discussed along with the contingent payments rather than as a separate item.

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(1) The figures for the years 1785 and 1788 are the only ones for the period prior to 1802, none are available for the 1790s. The figure for 1821/2 refers to the clip of 1821 which, however, was not sold till March of the following year, in all other cases the clip was sold in the year it was clipped.

Expenditure can be considered under four main heads:- Tythes and taxes, ancilliary services, miscellaneous items accounted for under the head of 'Contingents', and, by far the largest, labour.

Among the tythe and taxes items in the years up to 1816 the Poor Rate is included, but a large proportion of that was chargeable more against the House than the farm, and after that date it was charged against the whole estate. To give an idea of these charges and the changes that occur in them the table below gives the figures for a number of years between 1803 and 1833.

'Charge of tythes, assessments, and poor rate at Howick Farm'

Year	Tythe	Assessments	Poor Rate
1803	£59	£32	£137
1808	121(1)	149	127
1813	143	20	70
1818	125	78	No longer charged
1823	225	114	against the farm
1828	260	113	
1833	265	131	

From this table the increases in tythe are at once obvious, but no information is available from which the exact nature of the tythe incidence can be fixed. In the absence of such, it is nothing more than surmise that it included the whole of the farm, that there were no moduses payable in lieu of tythe, and it comprised corn tythe, but not the other tythes of hay, lambs geese and the like. This surmise is based on the procedure in the estate ledger in which the income from tythes so called only refer to corn tythes and the others are specified as lamb tythe, etc. It is also supported by the fairly close correlation between changes in

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(1) In that year from some source not specified there is a credit for tythe of £38, so that the balance of tythe payment was only £105.

the tythe charge and the acres growing corn and the value of such corn. A comparison of the tythe costs at this farm and at some others where I have found information suggests that the increases were comparable and may be taken as a fairly reliable guide to other farms where the number of acres, the size of the crop and the incidence of tythe was similar. In no circumstances can they be used as a guide to the tythe costs when such information is not present.

The assessments, on the other hand, in so far as they are based on the number of items such as dogs and horses subject to the Assessed Taxes may be taken with much more safety as a guide to other farms. They also illustrate why the Agricultural Interest in the Commons in the post war years were so fierce in their dislike of this method of revenue collection. Between 1820 and 1823, although the number of items liable to the assessed taxes remained constant, the charge was reduced from about £150 to the £113 given in the table for 1823. Unfortunately the change in the size of the farm makes a comparison with the years before 1820 impossible.

The second main heading of expenditure consisted of the cost of smith w o rk and cartwright costs, and again the simplest method is to give the figures for a number of years in tabular form.

'Cost of Smith and Cartwright Work at Howick Farm'

Year	Smith	Cartwright.	Year	Smith	Cartwright
1803	£56	£23	1813	£44	£19
1808	45	34	1815	39	13
1823	48	20	1818	31	14
1828	56	30			
1833	42	28			

(The left hand series are for the larger farm and the right hand for the smaller one)

In this case though .the costs varied from year to year there was no long term alteration in the cost, but none of the bills or invoices seem to have survived and there are only the ledger figures to act on, and those give no details. For this reason it is impossible to give any details as to how this charge was made up or even whether it represented only repair work or also new items as well. Even with this drawback it does give an idea of the size of these costs which cannot have varied greatly from this farm to similar ones in respect of size and type.

As the name implies, the contingent charges were made up of a series of items which for one reason or another could not be included under one of the main heads. For this reason they very frequently also include items of income so that there is a balance of contingencies rather than a simple charge to be considered, and as such vary considerably from year to year. Before going into the charges in a series of years it is worth while detailing some of the items included in a typical year. The following list does not attempt to be comprehensive, but only includes some of the more interesting ones.

'Selected items included in the Contingent Charges at Howick Farm in the Year 1803.'

Month	Item	
January	Humble for catching rats	£1.11. 6
	A pair of hedge-gloves	4. 0
	Picks and brushes for the mill	2. 5. 8
	Oil to the threshing mill	3. 9
February	Tar for carts	8. 9
March	Ernest Money to the hinds	7. 0
April	A half firkin of butter	17. 0
	2 st. of lintseed	10. 0
May	Vitriol for sheep	2. 4
June	Allowed to labourers at the feast	1. 1. 0
July	2 rakes	2. 0
	54 lbs. of turnip seed @ 1/6 per lb.	4. 1. 0
August	Thomas Brown, a turnip cutting machine	11.16. 2

'Selected items included in the Contingent Charges at Howick Farm in the Year 1803' (Continued)

Month	Item	
August	Wm.Gibson,Longhoughton,for breaking 53 loads of stone @ 8d per load	£1.15. 4
	Herd's expenses at Scotland for 42 Highland wethers	6. 6
September	Thos.Brown,on account of shearing machine	1. 1. 0
	4lbs. of candles for the kirn supper	3. 4
October	Raisins for Harvest Home supper	5. 5
	Beef for Harvest Home supper	1.11. 6
December	3 bisoms	9

In addition to these and many like them certain items recur regularly, the expenses of the farm bailiff, carters' costs, candles for the stables and the mill, and so forth. As can be seen from this list the accounts go into great detail and give a wealth of information on the working of the farm, though in some instances the exact nature of the items is obscure. (What the shearing machine was, for instance, I have been unable to discover). It is from the contingent charges that the costs of clipping the sheep are found and there are many other items which should be found under different headings. The interest of these accounts as a source of information on a wide range of agricultural items, however, far outweighs their importance to the economics of the farm so that I must leave the details at this stage and turn to the totals. The table gives details of the income and expenditure from the highly miscellaneous group of items for a number of years, though in this case the vagaries of book-keeping play an important part, in that in some years items were included in contingent charges, that in others were more properly included under another heading.

Contingent account at Howick Home Farm.

Year	Income	Expenditure	Net Income	Net Expenditure
1803	Nil	£190		£190
1805	Nil	351		352
1808	£660	217	£443	
1809	7	262		255
1813	497	348	149	
1818	694	195	499	
1819	851	457	396	
1823	523	328	195	
1828	675	179	496	
1833	458	630		172

The type of items that made up the contingent income can be seen from this selection from the year 1808:

'Selected items from the contingent account of Income at Howick in 1808'

April 1st	Mr.Lee for 115 bushels of hayseeds @ 1/6	£8.12. 6
Oct. 28th	7 st. of old iron @ 4/3	1. 9. 9
Dec. 31st	Keep of saddle horses for the year	162. 7. 0
	Keep of 10 milk cows @ £7 for the year	70. 0. 0
	Keep of the Gamekeepers' horse and cow	12.10. 0
	Keep of the Gardener's horse	10.10. 0
	Robt.Anderson's 2 cows and 2 horses	36. 0. 0
	130 loads of lime to Howick House @ 6/-	39. 0. 0
	Carting: Leading coals, lime, sand and timber	313. 2. 0

From this list it can be seen that carting made up the major element of the income in the contingent account, and that many of the other items, such as the keep of saddle horses or gamekeeper's cow and horse, are in the nature of book-keeping entries crediting the farm account for services rather than actual income. The amount of carting done in any year varied for obvious reasons, but on average about £300 per annum was credited to the farm. The balance between this item and the total contingent income always included the keep of a number of animals, and it was only a few minor sales that could be regarded as contingents in the full sense of sales from the farm of surplus material etc. that could not be put under any of the major headings in the ledger.

Before turning to the cost of labour there is one further expense that is worth noting. In this case, however, it was the subject of the only major error in book-keeping method that I have found. In the corn account the value of the corn used by the farm horses is noticed each fortnight, but although it is included in the income for that account it is not given in the expenditure under Farm Horses. The farm horse account only includes sales and purchases of animals until 1830 when a new heading is included to deal with the cost of corn consumed by them. For the next four years the average value of this corn was £375 p.a., when the number of horses was about 22 draught horses, 3 brood mares and 10 young horses, which would mean about £11 per horse per year. From the fortnightly returns for 1803 I have collected the quantity of corn sent to the farm stables and its cost, and from those figures it appears that 15 draught horses, 2 brood mares and 3 young horses consumed nearly 1,300 bushels of oats valued at £154. Between those two years the cost of this corn could be discovered by examining the fortnightly returns, but even without those it seems that the cost of corn was governed by the number of horses, but that the consumption per horse remained virtually constant at about 80 bushels per year for the draught horses and brood mares, while the young were left to fend more for themselves without oats. On the basis of this the cost per horse depending on the price of oats varied from about £10 to nearly £18 per annum. The cost of draught horses could vary from £15 to £40 depending on their quality, but on the whole the policy of this farm was to buy in young horses at about £10 to £12 and then keep them till they were dead and not sell them, even as horse meat, but bury them or give them away to the poor. At this price they were rather cheaper than those used for the collieries near the Tyne

where £50 and more was often spent for four and five year old horses.

From the horses we can now turn to the labour force used on the farm. In this respect there can be no doubt that Howick was very different from the normal tenant holding in that the general estate workers were often employed on the farm as casual labour, either when there was nothing else for them to do or when an increased labour force was needed. The labour used was divided in the fortnightly returns into three categories and can best be discussed under those headings. At the top of the social scale were the hinds, then the day labourers and lastly the women and juvenile workers.

The 'hind' was the normal type of agricultural labourer in Northumberland until the last quarter of the 19th century, and as such enjoyed a standard of living and prosperity far different from that of his southern counterpart. The reason for this difference is to be found in the terms of his employment on a yearly basis. To describe the conditions that obtained at Howick in the early years of the 19th century is within a small margin to describe those common to nearly the whole of Northumberland. In March the hinds for the year starting in the May were each given an earnest of 1/- in many ways analagous to the 'binding money' of the North East coal industry. This was a token by which both sides considered themselves bound to perform certain acts. The hind had to provide not only his own labour but also be responsible for there being an additional pair of hands available at all times should the employer need them. In return for this he was given a free house and free coals, the keep of a cow, and poultry and pigs, or a money payment in lieu thereof, and a quantity of grain. The cow and the other livestock that he was

allowed to keep he had to provide himself, and in the case of shepherds (including the one at Howick) they were allowed to keep a number of their own ewes with their master's flock. The scale of grain wages varied according to the type of corn grown on a particular farm, but at Howick and on a number of other farms in that area where I have found hiring agreements the scale was normally approximately as follows:

8 bushels of wheat	equivalent in 1803 to	£2.12. 6
3 bushels of pease	equivalent in 1803 to	15. 0
20 bushels of barley	equivalent in 1803 to	3. 3. 4
24 bushels of oats	equivalent in 1803 to	3. 4. 0

each half year so that from this source the equivalent of nearly £20 a year was received. In addition to this they each had given them 1,000 yards of potatoes, that is to say the equivalent of one row of potatoes 1,000 yards long. In 1803 at Howick some of the hinds opted to take money in lieu of some of these payments in kind and were allowed at the rate of £2 instead of the keep of a cow and £1. 1. 0 for the pigs and poultry, and in the case of grain at the current market price. By this method their wages were permanently tied to the cost of living so that fluctuations in the price of bread had no effect on their real wages. To make their position even more secure they were paid on an annual basis and neither sickness nor a seasonal lack of suitable employment in any way affected their wages. The number of these hinds at Howick on the larger farm varied between 8 and 5, though in the period after 1824 it remained constant at 6; on the smaller farm there were only 3. From the fortnightly returns which give details of what each one did every day there would not seem to be any difference between the jobs done by these hinds and those done by the day labourers, save that nearly all the ploughing was done by hinds rather than labourers. The continuity of

service varied considerably from that of a certain John Bowey, who was first hired in May 1802 and was still employed thirty years later, to some that were hinds for only one year. On the whole, the tendency seems for there to be a hard core of about four hinds who, once hired, remained for the rest of their lives, and the others came for three or four years and then moved on. In more than one instance the position of hind became almost hereditary when the son, having been employed as a labourer for a number of years, succeeded his father and his son in turn became a day labourer.

From the hinds we can now turn to the day labourers, many of whom were the sons of hinds. These men were paid so much per day or part thereof only when they were working and as such were in a far inferior position to the hinds. To provide accommodation for those whose fathers were not hinds, some of the cottages in the village were held on condition that their holders kept 'a bondage servant to work at any kind of work required and to be paid daily for such sufficient servant'. In the middle decades of the 19th century the term 'Bondager' came to mean specifically female bondage servants, but at this earlier date no differentiation is made. The rate of pay for these labourers varied according to the season throughout the period. In 1803 the winter rate which continued till the 1st of March was 1/6d per day, from then till the beginning of November the rate was 2/- when it reverted to the 1/6d of the previous January and February. By 1807 the winter rate had risen to 2/- with a corresponding increase in the summer rates to 2/6d. In November 1817 it was reduced to 1/8d and by 1824 was once more at 1/6d. By then, however, there was a much greater degree of flexibility and rates from 1/2d to

1/8d were paid. Even in the earlier years some of the young labourers were paid at a lower rate though the jobs they were doing appear to be the same as their elders'. After 1827 the rate returned to 1/8d and was still at that in 1835. In addition to this basic wage there were certain bonus payments for mowing hay (3d per day), an ale allowance for leading the hay and making the haystack, payable to both the men and the women, and for shearing the corn. Though the men were capable of working a 12 day fortnight it is noticeable that in fact most of them only worked 11 days and more general holidays were taken on four occasions in 1803 (Christmas was not included among those four, though New Year was). The number of men employed varied enormously over the year as the requirements of the farm changed, and few but the most fortunate worked consistently for more than 24 of the fortnights in 1803. As examples I have taken three of the labourers at random in 1803 and calculated the number of days they each worked during that year. The days worked ranged from 275 to 298 which means that in the case of one of them, Wm.Gibson (jun.) worked 282 days and was paid £26. 5. 9, while his father worked until the end of October and earned nearly £20. Among the sons of hinds one called quaintly 'Ned Taylor's boy' worked largely with his father for 290½ days and earned £20. 5.0, so that to that household either money or payments in kind totalled well over £50 in the year. The figures of the number of men employed at the beginning of each year gives some indication of those employed regularly during the year but not of the more casual labour used in the summer months. In 1803 and 1804 they were very numerous at 17 and 18, but after 1805 they were reduced to about ten till 1810. From 1811 to 1820 there were only five,but when the farm returned to its former size the number of labourers returned to between

ten and twelve till in 1827 it was reduced to seven at which level it remained till at least 1833.

One of the major tasks that the normal labour force was not solely responsible for was the shearing and harvesting of the corn for which a gang of vagrant labourers was employed, many of whom were women. In 1803 the costs of this and the number of days work done at various rates was:

'Harvest Labour at Howick in 1803'

Period ending September 9th.		
158 days work by women	@ 8d per day	£5. 5. 4
Period ending September 23rd.		
120 days work by women	@ 8d per day	4. 0. 0
Period ending October 7th.		
74 days work by women	@ 8d per day	2. 9. 4
23 days work by men	@ 2/6d per day	2.17. 6
350¼ days work by women	@ 2/- per day	35. 0. 6
86 days work by women	@ 1/9d per day	7.10. 6
Total		£57. 3. 2

The women paid at 2/- per day and the men at 2/6d comprised the gang, but apart from the total number of days worked there is no figure given for the numbers employed, or even whether the 350¼ days were all worked in the fortnight in which the payment was made.

The last group of the labour force was the women and juveniles, and there is an interesting paradox here. While in the coal industry by the early 19th century female labour in the North East area was very rare and virtually unknown underground, in agriculture no other county in England and Wales had by the middle of the century so high a proportion of female to male labour. At Howick it was the female labour that provided much of the elasticity to the labour force, for while in the first four returns of the year the average number of women-days worked per fortnight was in 1803 about 28, which would mean probably three persons irregularly employed from

April onwards, as many days were done by the women as by the men. In the fortnight ending April 22nd, women worked 157½ days while the day labourers worked only 147½. During the summer the number of 'women-days' continued very high with the largest number being in the fortnight ending 29th July when 253 days were worked by them as compared with 190 by the men. From the beginning of October, however, they were used less and less, till in the last return of the year there were only 15 days worked.

What sort of tasks did they do? In the winter months the few that were given employment worked at the threshing mill, carrying seed corn, and cleaning hedges. From April they were employed in all manner of ways, such as weeding turnips, setting potatoes, hoeing beans, spreading dung, making hay, cutting thistles and shearing corn. For this variety of work they were paid 8d per day throughout the thirty years irrespective of the season. At this rate they were at the same rate as the young boys,but 1d per day more than the young girls employed very occasionally during the hay harvest. Where did these women come from, and what did they do when not working on the farm? Although before 1834 the names of the women workers are not given in the fortnightly returns, the evidence of that and subsequent years leaves me in no doubt that they were almost exclusively the near relations of the hinds and labourers. A tradition of the agricultural labourer in Northumberland recorded both in the Royal Commiss-ions of the late 19th century and to the present day holds that the wives were never employed save in emergencies such as the harvest, but that it was the young unmarried daughters who worked on the farm when needed, and at other times occupied their time in spinning and weaving. The value of the hind who could supply, when needed, one or more able-bodied woman

worker was obviously much greater than that of the single man, and by the middle of the century at least it was becoming a prerequisite of being hired that such women were available. One last point on this is that the census figures show a marked excess of females over males in Rural Northumberland throughout the 19th century, even though there was considerable emigration of both sexes in almost equal proportion, and the inward migration was overwhelmingly male.

To return to Howick there remains the total costs of labour from year to year, though these figures do not include the cost of the hinds but only of the labourers. In the appendix the annual figures from 1803-1833 are given, but in general terms from 1803-9 the average was about £540 p.a.,between 1810 and 1818 about £350, and after 1819 more unsteady but averaging about £660.(1)

From this discussion of the principal items of revenue and expenditure the next stage is to strike a balance of income or loss. This was done in the ledger and I now give as an example that for the year 1825, though from the figures in the appendix it would be possible to do it for any year.

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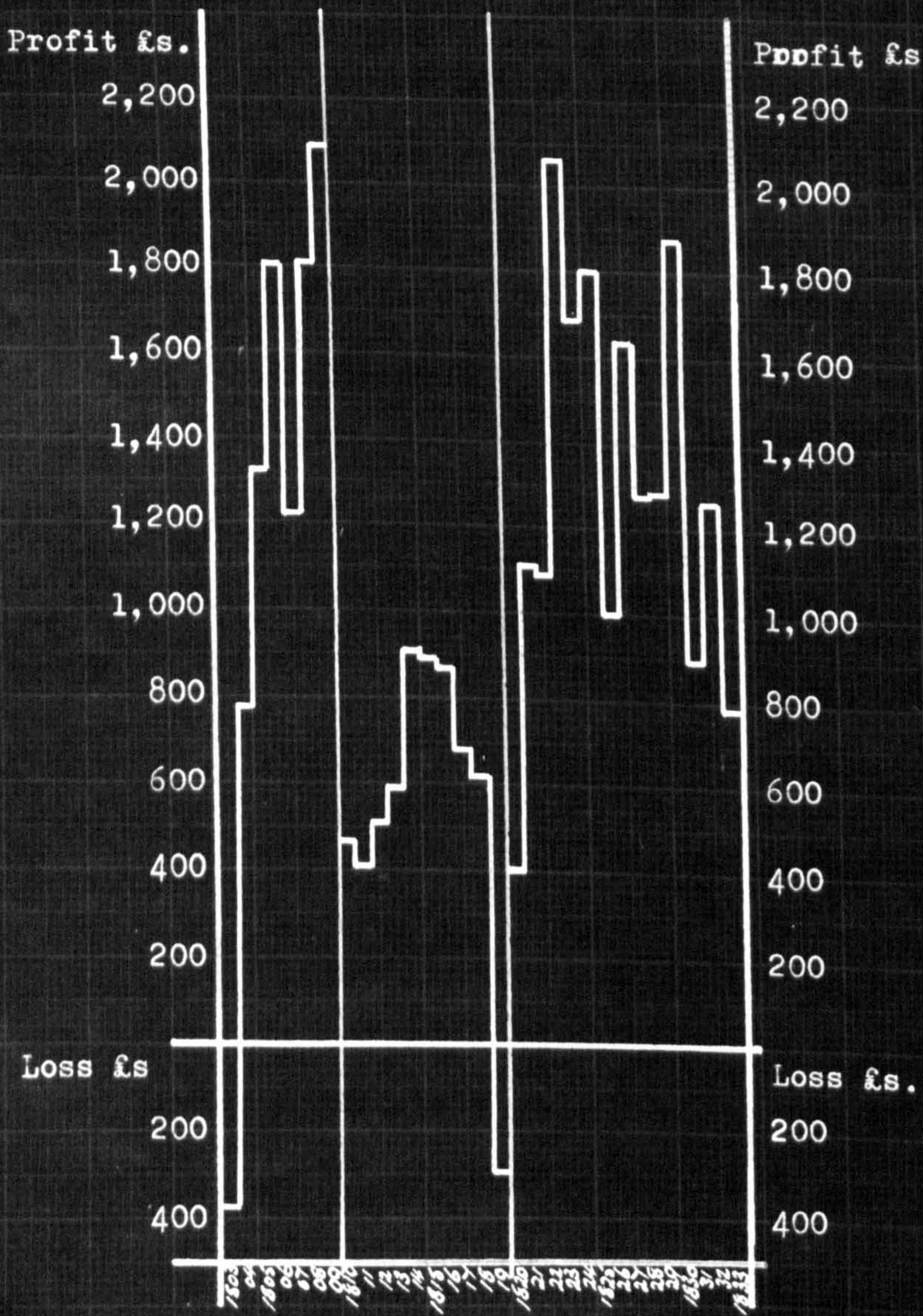
(1) The figures for the cost of labour given in the Communications to the Board of Agriculture, Vol.V, part I, pages 17 ff, compare the rates of pay in various Counties for labour and show that between 1790 and 1804 the rate in Northumberland rose by over 50% till it stood at 9/10d per week in winter and 13/- in summer which corresponds closely with the Howick figures.

Howick Home Farm.

Annual Balance carried from farm to main ledger

1803-1833



'Abstract of the Farm Account at Howick Home Farm for the year 1825'

Head	Dr.	Cr.
Black Cattle	1,780. 4.10	£836.10. 0
Sheep	611.14. 3	20.10. 0
Corn	1,253. 1. 4	69. 9. 0
Contingents	445. 0. 4	261.18. 9½
Farm Horses	7. 0	19.12. 0
Swine	35. 3. 0	
Tythes		245. 0. 0
Assessments		112.12.10
Smith Work		54. 7. 8
Cartwright (Incl.Joiner work)		23.17. 5
Labourers		678. 7. 4
	4,125.10. 9	2,322. 5. 0½
Balance (of income over expenditure)		1,803. 5. 8½
		£4,125.10. 9

In the graph opposite the figures of the net profit or loss are given for the period 1802-33, but they should be treated with the utmost caution as a guide to other farms, since, unlike a tenant holding they do not have to provide a family with the means of living. Although the Grey family were very interested in the Home Farm, it did not represent any major part of their income and was worked so as to provide the House with food and not to provide the maximum income from the land. Like the home farms of many other landowners, there was also an element of 'hobby-farming' in the management of Howick which removed it from the starker realities of the tenant holding. With all its defects as a source of information on the agricultural conditions in the first thirty years of the 19th century it remains none the less worth studying as a case in which, though many things mark it out as different from normal farms, there were even more that were similar.

Section 4.

Agricultural Rents in Northumberland 1700-1850.

Note:6

This section is divided into three parts corresponding to the three areas of the County for which evidence has been analysed,which will each be given a separate introductory synopsis.

General Synopsis of the Section:

Part 1. North Northumberland (pages 171-219). Within the limits imposed by the imperfections of the evidence the rental history of some 44,000 acres lying almost exclusively north of Alnwick is examined farm by farm. At that stage no firm conclusions were reached since it was thought better to delay the presentation of them till after the much fuller evidence available for the area near Hexham and Corbridge had been examined and provided a firmer basis for comparison.

Part 2. The Hexham/Corbridge Area. (pages 220-336) For this area the fullness of the available evidence and the size of the sample make it possible to determine with some certainty the several patterns of 'normal' behaviour present in the rent histories. On the basis of the rent per acre in 1760 rent indices are produced and analysed in detail which enable these different patterns to be isolated. With these patterns in mind they North Northumbrian farms examined in part 1 of this section are re-examined and the fundamentally different pattern noted.

Part 3. South-West Northumberland. (pages 338- 393) The methods of analysis and the conclusions reached for the two foregoing sections are applied to this third area to test their validity. In this process yet

Section 4.

Agricultural Rents in Northumberland 1700-1850.

Synopsis (cont.) (Part 3)

further distinctive patterns emerged which enabled a closer definition of the factors involved in rent history to be realized. In this process the presence among the Nunwick Manuscripts of very full records particularly for the first half of the 18th century enabled the dating and some of the reasons for the rent increased during that period to be determined.

Section 4.

Part 1. North Northumberland. (pages 171-219)

Synopsis:-

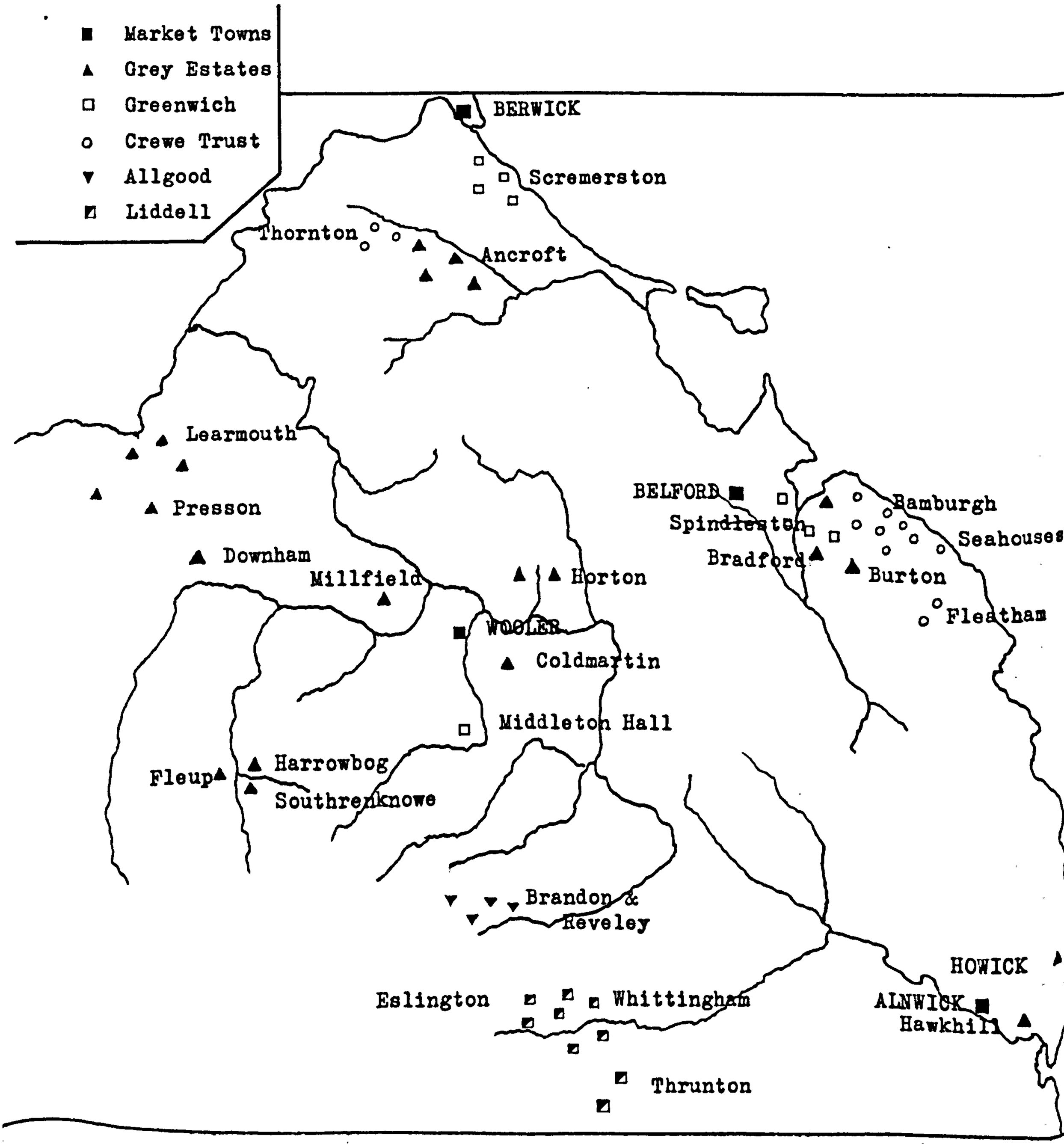
After a general introductory section in which the geographical features of the area are briefly indicated and the very large size of the farms investigated, the estates and farms are examined in detail. In the first place (pages 178-194) the Grey estates are examined except for those lying near Berwick and Bamburgh, and thereafter those of the other owners with the same exceptions. The second half of this part is concerned with compaxring the rental histories of farms near Berwick and Bamburgh which though often contiguous were under different ownership.(pp 197-215) By this means two factors are illustrated the first that of locality when ownership was the same, and the second, the other extreme, ownership within the same locality.

TEXT BOUND INTO

THE SPINE

The North Northumberland Area.

Scale: Quarter inch to one mile.



Section 1V: Part 1.

North Northumberland.

The map opposite gives the approximate locality of the several estates examined in this area,but without indicating their size. In tabular form they are as follows:-

Table 1. North Northumbrian Estates.

Owner	Name of farm/Estate	Acreage circa 1800.	
Grey	Ancroft	1,767	
	Burton/Bradford	1,583	
	Howick/Hawkhill	2,142	
	Horton,Coldmartin and Millfield	3,237	
	Learmouth,Presson and Downham	4,558	
	Fleup,Southrenknowe and Harrowbog	6,800	
	plus Ulgham Grange,Broomhill and Chevington not shown on map but lying on the coast some fifteen miles south of Howick.	4,256	
	Total		25,243
Greenwich Hospital	Scremerston estate	2,829	
	Spindleston	1,917	
	Middleton Hall	1,098	
	Total		5,844
Crewe Trustees	Thornton	1,253	
	Bamburgh/Seahouses and Fleatham	2,378	
	Total		3,631
Allgood	Brandon & Revely		3,393
Liddell	Eslington		6,096
Total			44,207

For the farms near Bamburgh a larger scale map (opposite page 203) gives the actual boundaries.

The 'Land Classification of Northumberland and Durham' published in 1950 by the North East Development Association,gives a map in which the combined effects of solid geology,glaciation,climate and so forth in producing land of differing quality are indicated. This shows in this area that there is a considerable tract of what they call 'Good Quality land' on the south bank of the Tweed and again near the coast from south of Scremerston to just north of Howick. Between that and the 'Poor Quality Land of the Cheviots' nearly all the land in this area is classified as of Medium Quality with minor variations dependent on such factors as elevation, aspect, and drainage.

In analysing the rents of these farms I felt that compared with the evidence available for the Corbridge/Hexham area (See Section IV; Part 2 below pages 220-274) not enough was known on which very firm conclusions could be based. The size of the sample was not large enough in the sense that those farms for which information was available beyond the bare facts of its changing rents were not enough to be able to be certain that any conclusions were valid. For this reason I have not attempted to produce a rent index for the several farms in this area at this stage, nor have I put the graphs of those rents on Logarithmic paper. After analysing the much fuller evidence of the Corbridge area in which the creation of a number of rent indices was attempted, then but not before ~~are~~ the rents of these farms/*are* given in index form and on logarithmic paper.

As a result of this the method of analysis employed in this part of Section IV differs markedly from that used in the other two parts. This is intended in part to illustrate how dependent on the calibre of the evidence available this analysis is; without the much fuller information available for the Corbridge/Hexham area it would scarcely have been possible to go beyond the point reached in this part. To my mind to have done so before examining that fuller evidence would have been improper.

When we turn to the actual estates examined it must be borne in mind that except for the Grey's of Howick none of the other owners' property was confined to this area. For the Liddells, Eslington was very much 'their place in the country' away from the industrial Tyneside from which they received the bulk of their income, and for the Allgoods Brandon and Revely was also far removed from the rest and major part of their estates.

In addition to these family estates there are those of the two institutions, the first and larger Greenwich Hospital and the second the Crewe Trustees. In the former case again these north Northumbrian properties were only a ~~xx~~ small part of the whole, but for the Crewe Trustees although they had other property near Blanchland in County Durham these northern estates were the more important source of income. The Greenwich property consisted of three separate units; (on the same lines as the Grey estate)

two on the coast -

Scremerston, near Berwick, and Spindleston, near Bamburgh, - and one inland near Wooler - Middleton Hall. The Crewe trustee estates are also divided, the main portion being near Bamburgh, and the rest lying further north near Berwick, but inland (Warlow).

As I have already discussed in the introduction the various estates and the Mss sources, all that is needed here is a general introduction to the peculiarities of this part of the County before examining in detail the information available. For the geographical background I must refer the reader to the work mentioned above which gives a clear indication of those permanent factors, such as the geology and climate of the area, as well as the effects of all these on the land's possible use. To summarise the main points, this is an area of low annual rainfall rising from below 25" per year on the coast to over 50" over the Cheviots, high sunshine total with over 1,400 hours per year at Berwick, though here again as one moves westward and higher the amount of sunshine also diminishes. Against these beneficial factors must be put the severity of the winters, the lateness of the springs and the frequency of late frosts, particularly in the valleys. The soils vary considerably from the rich red sandstone based ones of the Tweed valley and the northern portion of the coastal plain, through the heavier clays of the rest of the coastal plain, where the old red sandstone is mixed with carboniferous material, to the Igneous till of the Cheviots. The map of the land classification based on this material gives the combined effect of these conditions and though it cannot be used as a basis for close comparison of contiguous farms, as a general indication it is most useful.

Turning from this, one of the most interesting features of the

agriculture in this part of Northumberland is the extraordinarily large size of the farms. In the purely rural areas, even on the best quality land, few units are less than 100 acres, a point that can best be illustrated from the Grey Estate. If we discount the hill farms of the Cheviots we are still left with the following distribution of holdings in 1803.

Table I. Size of Farms on the Grey Estate 1803

Size	Number of Farms	Notes
1,000 +	4	3 of these contain considerable rough grazing.
500-1,000	13	
250-500	8	
100-250	3	
under 100	1	Land attached to a Public House

It is not easy to give a satisfactory explanation for this phenomenon in every case, though in general these large farms represent decayed villages or hamlets. In some instances it is possible to date the collapse of the village closely as in the following two examples: the first comes from a report of 1579 quoted in the Northumberland County History, Vol.II, p.252, and concerns Outchester, one of the Greenwich Hospital farms (later two farms)

> 'A village wherein dwelleth John Horsley Gent, being the land of Sir Val.Browne Kt. and in all tymes hereto fore having XII tenants dwelling thereupon until of late that one Thos.Jackson late of Berwick deceased, having an estate of morgage therein did wholly expel the said tenants, and put the land therof to pasture, and so it remains to this day.'

In the other example a Berwick man is again the central figure - a certain Anthony Compton who was agent to the owner of Learmouth and Sunnilaws - Sir Henry Grey. In 1708 there were eight distinct tenants, one of whom tenanted what was called the 'Coaters' on behalf of a number of sub-

tenants. By 1733 Anthony Compton was the sole tenant of what must have been rather more than 2,500 acres, having acquired a series of leases as the previous tenants died or their leases fell in. In a few other cases the leases reveal this in the early 18th century where a farm is described as 'That Village, messuage or tenement', or 'all that village, hamlet or farmstead known as Sunnilaws'. Why should this be so common a feature of this part of Northumberland as compared with elsewhere and why should it have been continued? In the first place, though covering relatively large tracts of land, these decayed 'Villages' were never thickly populated and should be better described as small hamlets with virtually no peasant proprietors. In the second, the nearness of the border and the consequent history of political and social unrest tended to make the life of the peasant population even more uncertain than it was further south. In some cases a succession of Scottish raids preceded the actual desertion of the site as at Middleton Hall (on the Greenwich Estate) where the crops were burned in four years out of five in the 1580s.

When all due allowance for this has been made it must still be remembered that though the number of tenants had been reduced to one or two, that may not involve a reduction in the total population but merely a change in the organisation of the area and the status of its residents. At Burton near Bamburgh (Grey) described in 1579 as 'A village of her majesty's ... wherein is 7 tenants of her majesty..' By the end of the 17th century there was but one tenant, as there was in 1801 when the first census revealed 40 inhabitants. As the boundary of the census district and the farm was identical and by 1821 the popula-

tion had risen to 85, it becomes obvious that in one sense the hamlet cannot be considered as deserted, even though there is only one farm. In fact these large units are themselves the basis of the hamlet settlement of this part of Northumberland by the end of the 18th century and often include certain features of communal life such as the smithy, mill and carpenter's shop.

The landlords, once the units have become large, seem to have been quite content to keep them that way as it attracted a quality of tenant which smaller farms could not - the very prosperity of the district at the end of the 18th century was in no small measure due to the size of the farms, and the consequent large-mindedness of the tenants.

Having dealt with these points we can now turn to the course of rents and agriculture generally in these parts between 1700 and 1850. In doing this I shall first outline the major change that took place and then examine in detail the changes in the rents of various farms in different areas estate by estate.

At the beginning of the 18th century there can be no doubt but that the general level of husbandry was primitive in the extreme, rents low, tenants poor and illiterate, and landlords inefficient. A century later this part of the country was being held up as an example for the rest of England: 'This is admirably cultivated.... farmers in every part of Britain ought to send their sons to this district as pupils.' (1) In this change the introduction of new crops such as clover and turnips and

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(1) 'An immediate and effectual mode of raising the rental of the landed property of England' by a Scotch Farmer (1808) (John London), p.122.

improved livestock were crucial, but it was not only the activities of leading agriculturalists like the Culleys (improvers of sheep - probable creators of the Border-Leicester breed) but also the normal tenants who readily accepted new techniques and of landlords who were willing to grant long leases and put money into their estates that brought this about. An idea of conditions at the beginning of the century can be got from the letters of George Liddell to his father when he viewed the Eslington Estate in 1719 for his father who had just purchased it from the Forfeited Estate Commissioners without having seen it.(1)

Saturday evening, Mar.8th 1718/9

'We got to Whittingham on Monday by noon and from thence I went to see Eslington House.... Part of the road, vizt. over Rimside Moor is always extremely bad the rest well enough. But that was all qualified by the sight of a wonderful pretty estate. There is a great deal of extraordinary good land as ever I see and a great deal very indifferent; but it has been abundance of it ill used within these three years.'..... 'They (the tenants) have sown almost every inch of their tillage land; so that not one in six of them will leave an acre of fallow. And now Sir give me leave to tell you that tho' there has been great abuses committed since the rebellion and tho' there are in a great part of the estate not a hedge in a mile but only sheep walks, yet I think the purchase an extraordinary good one. .. It is very unaccountable that most of the tenants have extraordinary farms and yet they are as poor as charity. They are very great slovens not only on that but almost all the neighbouring estates. Mr.Browne at whose house we are and several others lett their land at 2/-, 3/- and 4/- an acre, and indeed by their way of management it is dear eno' for they grow corne till it will do no more and then lay it downe; and will not so much as gather a stone off it nor plow up a baulk, nor is there generally speaking so much as a hedge betwixt one Gentleman's estate and another but all lying as a waste'.

Although some of the abuses were the direct result of the absence of any effective landlord control after the Rebellion other sources suggest that the conditions described here were only too common over the rest of the area, and that the landlord alone was in a position to take the

(1) He paid £18,100 in May 1719 for this estate of approx.5,000 acres, which had belonged to George Collingwood who had been attainted and executed in 1715. For the Liddell family see E.Hughes 'North Country Life in the 18th Century', passim. The letters are among the Eslington Mss.

initiative in remedying them. In a later letter George Liddell outlined his proposals for the Eslington Estate which suggests methods which were to become common on many other estates.

Mar.12. 1718/19

> 'The tenants in this country are a slothfull, injudicious sort of people: so that I have not any hopes that the Estate can be brought into any tolerable condition by them. But however (sic) not without some proper agent, on the spot to have a strict eye upon them. And with that, without a better sort of husbandry be brought in amongst them I expect no great matter from them. I should therefore advise your taking one of the most run out farmes into your hands, and send over some good husbandmen from hence (Gateshead) and have your agent on the spot to direct and inspect. This or something of this sort I would recommend as the readiest way to improve the estate: for those sort of creatures cannot be talked into reason, but will follow example'.

After this initial stage the role of the landowner and his agent changed particularly when the supply of potentially good tenants became plentiful, but one method which, though harsh, remained common was to charge so large a rent that it could only be paid by a tenant who was efficient. As a corollary to this method the landlord was nearly always prepared to allow abatements to tenants in times of adversity rather than risk the loss of a proven good tenant or having to take a long term reduction in the rent as a result of having to offer the farm in bad times.

When we turn to examine the Grey estate in detail it will be convenient to deal with the various groups of farms which were situated in similar areas, starting with those farms which are not shown on the map lying south of Alnwick, in what became in the late 19th century the coal mining district near Ashington and Amble. (I shall omit the farms near Bamburgh and Berwick so that I can more easily compare the farms on the three nearby estates in those areas together.)

In 1803 there were 8 farms in this group with a total acreage of 4,256 (average 532 per farm) on which the tillage in that year varied

between 40% and 53% of the various farms. The principal crops were wheat and oats, in that order, with a certain amount of fattening of cattle, but the land was rather a cold clay which before the introduction of tile draining tended to be very heavy. In this these farms seem to be similar to the area as a whole since we find in the returns of acreages of the Durham Diocese made in 1801 that in the parishes of Warkworth and Widdrington the number of acres under various crops was as follows[1]-

'Table I. Cropping return 1801 for the parishes of Warkworth and Widdrington'

Crop	Warkworth	Widdrington	Crop	Warkworth	Widdrington
Wheat	1,441	920	Potatoes	62	10
Barley	329	13	Pease	142	33
Oats	1,923	641	Beans	142	75
Rye	12	nil	Turnips	300	50

Two points of particular interest from these returns are the comparatively few acres of turnips grown - particularly in Widdrington parish, and the virtual absence of potatoes as a farm crop in both parishes.

The evidence for this group in the early 18th century is somewhat scanty and it is not before 1763 that the rent of the various holdings can be distinguished with any certainty. Before that date, however, it can be seen from the overall figures that substantial increases had taken place. In 1740 the rents of the various farms in the Chevington part of the group had a total rent of £750 p.a. (approx. 4/6d per acre average) but by 1756 when the next rental occurs that has survived, this figure had increased to £1,000 (nearly 5/9d per acre). At this stage there were a number of tenants holding a series of low rented farms, but even so a rise of 33% in the rent between 1740 and 1756 was achieved without apparent hardship and no record of bankruptcies.

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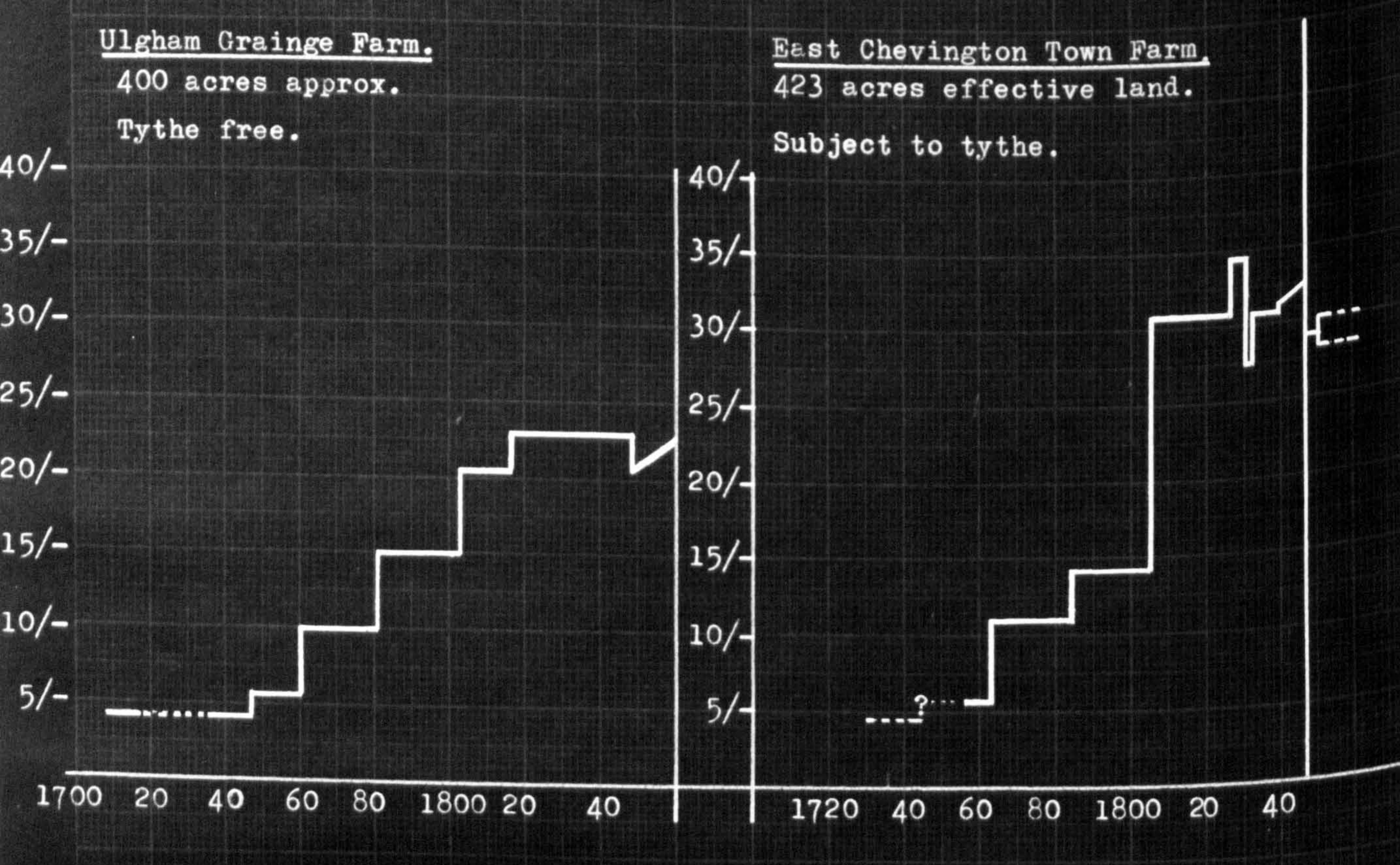
(1) P.R.O. Home Office 67/8 Acreage returns of various crops for the Durham Diocese 1801.

GREY ESTATE (Group 'A').



N.B. In 1847 Earl Grey assumed resposibility for paying the tythes commuted @ £100 p.a. The rent after 1853 varied with the gazette price of wheat.

In 1763 the estate was grouped into six farms which were to remain substantially the same for the next century. Five of these were given twenty-one year leases at rents from 6/9d to 9/1d per acre, while the sixth started a twenty-one year lease five years later at 6/1d. The total effect of this reorganisation was that the total rent rose to over £1,500, an average of nearly 9/- per acre for the effective agricultural land. A similar story occurred at the other farms in the group where the rent having been 4/4d per acre in 1720 and 1740 had risen to nearly 10/- by 1760.

The graphs opposite shows the changes that occurred on two of the farms from that date to 1850, and at once the wide difference between them is obvious. In the graph of Ulgham Grange, although there was a rise in the rent during the Napoleonic war period it was nowhere near as marked as in the case of East Chevington. This difference is partly caused by the fact that at the latter the widow of the tenant who took the farm in 1763 was left undisturbed till her death in 1803, so that by that date the rent was unrepresentative of its true worth. Even more important than this was that Ulgham Grange was never able to increase its proportion of tillage above 40% of the whole, while at East Chevington it rose from 227 acres in 1803 to 293 in 1825, which was nearly 66% of the whole farm. This illustrates very clearly the extent to which the sort of farming which could be carried out determined the rent changes in the early 19th century. The other noticeable thing is the difference which the accident of when the lease was renewed has on the size of the rent increase. Those farms where the leases were renewed in 1784 and 1805, for example, show an increase of from 33% to 52% in the former

year (with the largest increase occurring on farms where in 1803 the arable land was a greater proportion of the whole). In 1805 the same farms relet showed an even greater degree of variation in the size of the increase from 115% of the 1784-1805 in one case, to 66.6% in the farm where the change was proportionately the lowest. In other cases where the leases were renewed at different times we find that farms whose leases were renewed in 1801/2 only showed an increase of about 50% over the previous rent.

Before dealing with the post-war period we can summarise these changes that occurred up to c.1805. In brief where the evidence is available for the early years of the century it seems that rents of about 4/- to 5/- were the rule almost irrespective of later divergencies from this common level. Between 1740 and 1760 an increase of about 33% occurred (probably in the early 1740s if the leases were renewed at that time) which brought rents up to between 5/6d and 6/- without again there being much evidence to suggest that the rent mirrored exactly the variations in either fertility or cropping from farm to farm. In 1763 a major reorganisation took place and from that time the range in the size of the rents became not only actually greater but also proportionately so with those farms which could grow wheat, showing a far greater increase than those less suited to that crop. At that date the rents were from 7/- to 10/- per acre so that in just over 20 years there had been an increase of nearly 100% which in the absence of any evidence of increased prices must be put down in the first instance to the greater efficiency of the landlord (Sir Henry Grey who inherited the Estate in 1750) and secondly to the greater productivity of the farms as a result of better

techniques. During the rest of the century this process of increased rents was carried further with a general rise of between 33% and 50% in the 1780s and then with the outbreak of the war an increase of from 66% to 115% having taken place after the renewal of leases in 1805. These later changes accentuated the differential between the arable farms and those which relied still for the major part of their income on pasture farming.

The most surprising thing about the post-war period is that in those farms whose leases were once more renewed in 1826 an increase took place in all but one, and that it was not until the 1830s and 1840s that lease rents declined. The policy of Earl Grey in granting generous abatements of up to 20% of the annual rent in times of distress(1821-2-3 (10% general) 1832-3-4 (15% general, with additional allowances in special cases)) no doubt helped to maintain the lease rents but also the large size of the farms, the subsequent capital of the tenants as well as the probable increased productivity of these farms played their part. The extent of the downward pressure on rents particularly in the 1840s was considerable, as can be seen not only from the actual decline in most cases but also in this letter from the 2nd Earl Grey to his free trader heir, Lord Howick:(1)

Howick 21st Mar.1841

'I foolishly agreed to take off the hands of the Fenwicks the two farms of West Chevington and Whitfield House. The weather in the early part of the year was unfavourable for viewing them and I have now had no offers except at a considerable reduction of rent. The fear of an alteration in the Corn Laws has had, I am told, a considerable effect in keeping back offers. I must I suppose submit to a loss of income which I can ill afford, and it is the more vexatious as I am convinced that the tile drainage and the establishment of Warkworth Harbour will greatly increase the value of land in that district. The farms are in very bad condition and nobody will look at them except with a view to a 21 year lease.'

(1) Grey Mss. Prior's Kitchen, Durham. Letters of the 2nd Earl to his son.

In this case the rent of the two farms was reduced from £1,550 to £1,200, a drop of 23$\frac{1}{2}$%. In others, particularly in the late '40s and early '50s an interesting method of fixing the rent was adopted in a number of cases by which it was tied to the price of wheat. This process can be seen from the following report drawn up in 1851/2 for the 3rd Earl on the neighbouring farm of East Chevington, the rent per acre of which from 1740 is given in the graph above.(1)

> 'In 1839 the rent was fixed again at £697.10. 0 midway between £740 (the rent agreed in 1826) and £655 (the rent agreed in 1805). On the expiration of the lease in 1847 it was, after a valuation, let at £730 tithe free with power of giving up any year in the first seven. This was based on a calculation of wheat being about 48/- per quarter. In March 1851 in consequence of the depression Mr.Wilson and his son were offered the conversion of half their rent to a corn rent substituting for one half the money payment quarters of wheat equivalent to it at 48/- and adopting the averages from 1848 this would have ~~been~~ reduced the rent to £704 in 1851. This did not appeal to them sufficiently and in May (1852) they gave note of their intention to quit in May 1852. In consequence .. a negotiation was entered into and in Nov.1851 it was agreed that they should hold the farm for another year at least on the following terms:- Rent £120 in cash, and 270 quarters of wheat at the averages of England beginning with 1849: thus in 1852 with wheat at 43/- per quarter it will be £600 and with wheat at 45/- the future rent would be (deducting £90 for tythes) £637.10. 0.

In general in the first twenty years after 1815 the depressive effects of falling prices were offset by the fact that most of the leases in this group had been entered in the early 1800s and therefore had not included any sum for the great inflation in agricultural prices of the 1809-14 period. In addition to this there is some evidence that though times were occasionally bad the willingness of Earl Grey to grant abatements prevented any fall in the lease rents. After the mid 1830s this was no longer enough, and throughout the '40s and early'50s despite heavy land-.

(1) Grey Estate Mss. in the Prior's Kitchen Durham (uncatalogued) Neither dated nor signed. By 1870 the rent had recovered to £834.p.a. on a lease 1861-82.

lord investment in drainage and the commutation of tythes (and their being taken over by the landlord in lieu of the tenant) there is a strong depressive tendency which by c.1850 had brought rents down to the figure of 1805 or a little below. The unprofitable nature in the 1840s of these farms from the landlord's point of view can be seen from the fact that at one of them (East Chevington) £650 was spent on draining between 1840 and 1847, and a further £982 between then and 1851, and when the tythes were commuted in 1847 the landlord undertook to pay them on the basis of £100 p.a. Nevertheless the net rent to the landlord fell by nearly £200 p.a., a reduction of nearly 29%. From this survey of the farms in this area we can turn to those in the Cornhill district of the Tweed valley.

The Grey Estate in that part of the County consisted of about 4,500 acres which was divided into from 6 to 8 farms, of which in 1825 four were more than 500 acres and the smallest nearly 200 acres. It was this part of Northumberland in particular that was held up for the admiration of others by authorities such as the Culleys and John Grey of Dilston, all of whom came from it. The basis of their husbandry was two-fold - turnips and oats as crops and the improved Border-Leicester and Cheviot sheep as livestock. The difference between this and the first area in its arable farming can be seen clearly from the returns of 1801 for the three parishes of Carham, Branxton and Kirknewton which comprised most of the area.

Table 2. 'Return of Crops 1801 for the parishes of Carham, Branxton and Kirknewton' (1)

Type of Crop	Carham	Branxton	Kirknewton
Wheat	681	462	404
Barley	475	459	526
Oats	984	942	1,252
Rye	17	6	nil
Pease/Beans (a)	287	123	140
Potatoes	71	28	64
Turnips	1,067	517	967

(a) Pease and Beans were not separately noted in the returns.

(1) P.R.O. Home Office 67/8 Returns for the Diocese of Durham.

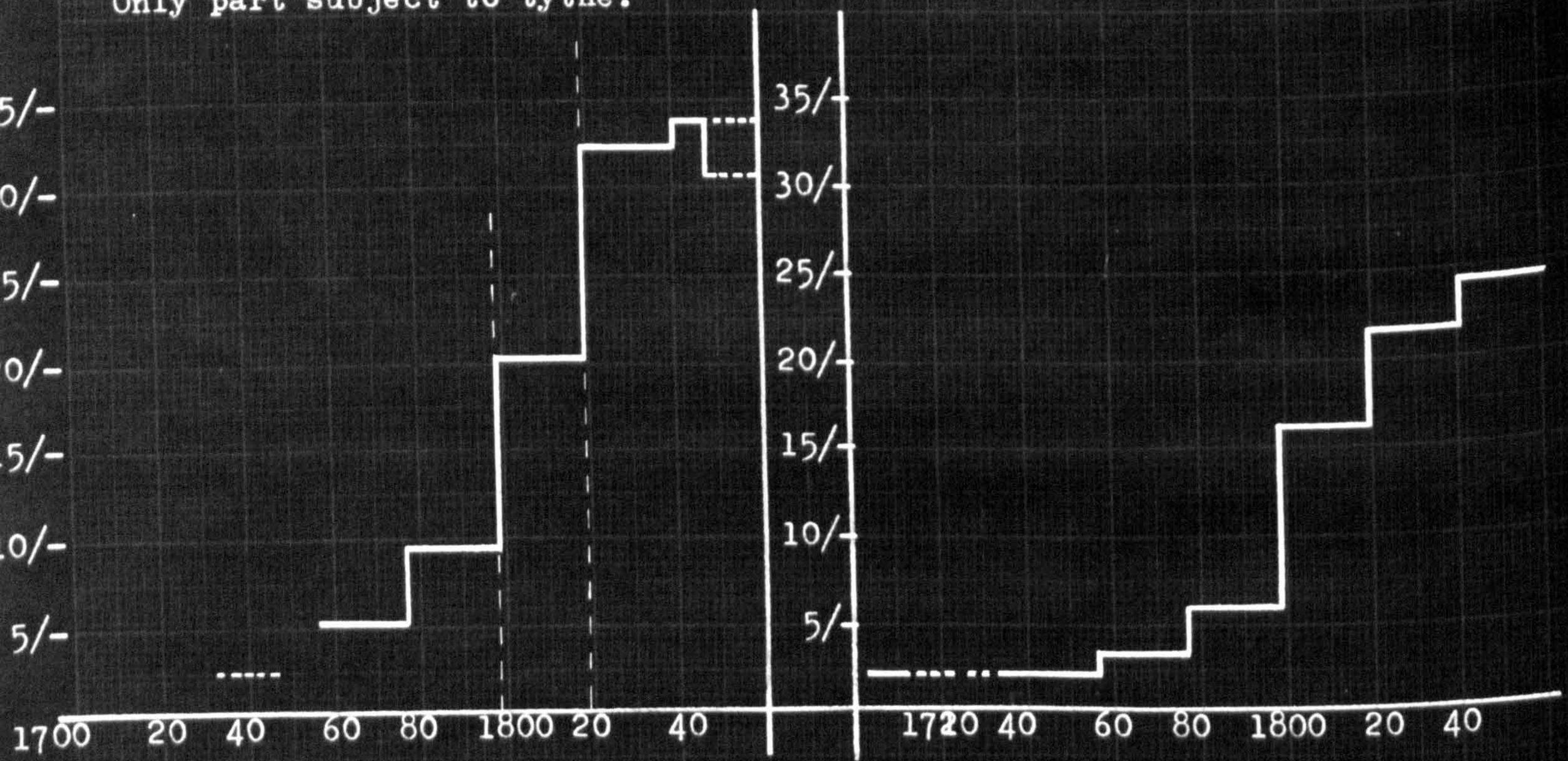
GREY ESTATE (Group 'B').

Learmouth Farm(s) 1708-1798
2,600 acres approx.
East Learmouth farm 1798-1819
820 acres.
East Learmouth farm 1819-1861
945 acres.

Only part subject to tythe.

Downham Farm
600 acres till 1777
approx 700 acres thereafter.

Subject to tythe.



N.B. After 1847 Earl Grey assumed responsibility for paying tythes commuted @ £50 p.a. (approx 1/- per acre)

N.B. Tenant remained throughout responsible for paying tythes commuted in 1847 on the basis of £100 p.a. (approx 2/8 per acre)

From these returns it becomes obvious that oats were being grown on at least two acres for every one of wheat or barley, and that in two out of the three parishes the use of turnips was well established on a scale altogether different from that of the Widdrington and Warkworth area. Not only was the type of farming different, but also there is some evidence to support the belief that yields per acre were greater. The incumbents of a number of parishes gave estimates of the yields in their own area and from these it appears that in County Durham in particular, yields were much lower. The Sedgefield and Billingham returns, for example, describe it as a good crop of wheat yielding 16 or 17 bushels per acre, while Carham and Branxton give between 24 and 32 bushels; and for oats the corresponding figures were 32 bushels per acre and 40 bushels respectively. Although the estimates of the clergy must be viewed with suspicion the similarity of the opinions of the two men in each of the areas does strengthen their credibility.

On the Grey farms we have no information as to the yields but the proportion within the tillage land of oats, wheat, etc. corresponds closely to the figures for the parishes in general. As to the relationship between tillage and grass land, this varied considerably, not only from farm to farm, but also between one date and another. In 1803 the highest percentage of tillage land was nearly 56% and the lowest 30%, while in 1825 the figures were from 70% down to 30%.

The graph opposite gives the rent per acre of two of the farms from c.1708 to post 1850 and illustrates clearly the differences between two farms on the same estate whose leases were renewed at the same date from 1756 onwards at regular 21 year intervals. This difference can be

explained by a number of factors, the first being topographical, for although less than four miles apart the farm at Learmouth was within at most two miles of the Tweed and contained no land over 300' high,while the other, Downham, further south, included a hill rising from over 500' to nearly 800'. The presence of this comparatively marginal land in the latter farm no doubt made the average rent per acre on it lower even though the best land was let at the same price. In addition to this, Downham was more heavily tythable, as can be judged by the fact that when the tythes were commuted in 1847 Learmouth's were valued at a basic £50 per annum on 950 acres (or less than 1/1d per acre), while at the other farm the tythes were based at £100 p.a. on about 700 acres (more than 2/9d per acre). When it is also noted that the landlord after that date paid the commuted tythes of Learmouth, while the tenant of Downham was still responsible for those on his farm, the difference between the two rents in 1850 is only small. The last cause worth noting was that while in 1803 55.6% of Downham was in tillage the lease of 1819 reduced the amount allowed so that by 1825 it was down to 34.7%; in the case of Learmouth no such drop in the proportion of tillage was either enforced by lease or carried out by the tenant and it remained at approximately 53% throughout that period.

Bearing in mind the differences of this nature between farms within the group we can examine in general the movement of rents over the period. The first point to note is that in the early 18th century rents were rather lower here than on the coastal farms already discussed, at from 2/- to 3/- per acre. In this group a new series of lettings in the 1750s saw a significant rise which however varied from about 30% increase on most of

the farms to nearly 100% increase in one instance (Learmouth). In the absence of any fuller information we can only hazard a guess as to the reason for this difference - that the same Anthony Compton who as agent of the previous owner (Mr.Henry Grey) had acquired the series of leases which were consolidated into the one holding, had held them at a notional rather than an economic rent, and that the new owner was not prepared for Compton's successors to enjoy that privilege.

At the next series of lettings in the 1770s the rents were again raised,doubling approximately in every case from between 3/- and 5/- to between 6/- and 10/-. This is most interesting as the evidence of John Grey, writing in the early 1840s, suggested that it was not until after the end of the American War of Independence that any significant change took place.(1) Nor can this be put down to the improved livestock associated with the name of Culley, as by that time he had not brought from Bakewell the rams that were to be the basis of that, nor had the shorthorn cattle received much attention. As for turnips, the late 1760s is the date usually given for their first experimental introduction into these parts, so that unless one allows for the rapid acceptance of that practice it is difficult to see how they could be responsible for such increases in 1774 and 1777. To what then can this be ascribed? Tentatively I would suggest that it is in part due to the increase in the price of livestock, beef and mutton; in part to improved husbandry, independent of the more spectacular innovations of the next two decades, based on an improved quality of tenants and the increased use of clover among other things; and partly to the improvement in the living accommodation etc. of the farms as a result of landlord investment.

(1) 'View of the Agriculture of Northumberland' by John Grey of Dilston, in the Journal of the (Royal) Agricultural Society, 1841.

Great as these increases were, those of the 1790s were even more spectacular with rents rising by as much as 200% over the previous figures. As a result of this, by 1800 on most of the farms rents varied between 16/- and 20/- per acre. Only a small part of this can be put down to the general price rise in agricultural products and the remainder to the 'Revolution' in agricultural techniques which had by then largely taken place in this part of the County.

Because most of the farms remained on the lease agreed in 1798 till 1819 no further advance took place during the remainder of the War and the tenants enjoyed high prosperity based on rents which were by 1810 no longer representative of the current prices of either land or produce. Only in one case was there a renewal of a lease during that period, when in 1809 Presson Farm was divided into two separate holdings, one of 314 acres and the other of 917 acres. Here the overall rental was increased from £650 to £1,920, which brought the rent per acre on the larger farm to 33/4d.

It was the fact of when the lease was renewed that largely governed the post-war course of the rent, since where they had been granted for 21 years from 1798, when they came to be renewed in 1819 a further increase took place which, though smaller, was still in the case of one farm sufficient to double the rent per acre from 19/6d to 40/6d. In most other cases the increase was of the order of 25% to 50% on the previous figure. At Presson, however, the rent fixed in 1809 was by 1819 reduced to an average of 26/- per acre, a drop of 20%. When this one was renewed in 1830 the rent rose slightly to 28/3d per acre, till 1851, by which time a further £33 per annum was being paid as interest on drainage money.

In the case of the other farms whose leases ran from 1819-1840 an

abatement was granted of 10% in 1833-4-5, but on renewal they were all increased very slightly. The downward pressure on rents that was observable in the first area was here nowhere near so pronounced, though in the very late '40s some small reductions took place (sometimes masked by the landlord taking over responsibility for tythe rent charges, or reducing the rent, while at the same time charging the equivalent of the reduction for interest on money spent on drainage).

The overall picture for this group can be illustrated from the one farm of Downham where the rent was £80 p.a. in the first half of the 18th century, and in 1819 was fixed at exactly 10 times that sum and was to increase a further £100 per annum in 1840. It is, however, not only in the greater size of the overall increases that this group of farms differs from the preceding one ; the timing of the increases is slightly different with no sign of the great changes of the 1790s being apparent in the coastal farms, and in the first half of the 19th century these rents show a much greater buoyancy, particularly in the 1840s. This latter may well be accounted for by even further improvements as suggested by John Grey in the article mentioned above where he writes 'Still the system of agriculture which a time of unexampled prosperity produced has been maintained, and a substitute has even in great measure been found for the high prices of the war in the increased production obtained by recent improvements'.

The other groups of the Grey Estate, with the exception of those near Bamburgh and Berwick, which will be dealt with separately in conjunction with other estates in those areas, need not be treated so fully. The first of them comprised four farms in the vicinity of Wooler, the

second three hill farms on the north slopes of the Cheviot itself, and the last the isolated tenant holdings near the home farm at Howick.

The Wooler district farms varied considerably in many respects, with one of them being under 200 acres, while the other three were about 1,000 acres each. In no case, however, in 1825 was the amount of tillage more than 47.6%, and in all but that one instance it was less than one-third of the farm. In view of the large amount of rough grazing on each of them it is not surprising that the rents per acre were lower than elsewhere. Table 3 gives the rents per acre of the farms at various dates during the period, from which the changes can be seen as well as the differences between the four farms of the post-1816 period.

'Table 3. Rent per acre of Farms in the Wooler area on the Grey Estate'.

Date	Horton joint (2,101 acres)	Horton Eastside (1,024 acres)	Horton Westside (1,093 acres)	Millfield Hill (931 acres)	Cold-martin (189 acres)
1708	1/9			1/10	2/2
c 1750	2/4			4/-	2/2
1770	2/11			4/-	4/6
1780	2/11			? 5/4	?10/ 7
1790	6/2			5/4	10/ 7
1800	6/2			5/4	21/ 2
1810		21/7	21/7	19/9	?
1820		17/7	15/6	19/9	40/1
1830		16/9	15/6	19/9	40/1
1840		16/9	15/6	17/2	40/1
1850		16/9	15/6	17/2	30/ 9

From this table it can be seen that as a group the farms have little in common save for their mutual proximity to Wooler. In the case of Coldmartin the size of the overall increase between 1750 and 1820 was from 2/- to 40/-, a twentyfold rise and that rents roughly doubled in 1756, 1778, ?1799, and at some undiscovered date c.1809. At Horton, which was only one farm of over 2,100 acres before its division in 1816, there was no

such increase in 1766 (when the lease was renewed) as had taken place ten years earlier at Coldmartin, but at the next two renewals in 1787 and 1808 the increases were 150% and 250% respectively over the previous figures. The surprising thing here is that although between 1803 and 1825 the amount of tillage land was increased from 480 to 791 acres, the increased rent of 1808 had been substantially reduced after the division in 1816. Even so, the overall increase on these farms from 1750 to 1850 was seven fold (from 2/4 to 16/6).

The main interest of Millfield Hill is that it was the home of John Grey (later of Dilston), and it was here that after the death of his father he learned his trade under the guidance of the Culleys. From that experience, during which time the rent was raised from £250 to £900 (? 1809),he received the training in enforced efficiency which he was to find so lacking when he became agent for Greenwich Hospital in 1832/3. Here the overall increase 1750-1850 was from £83 to £800, nearly ten fold with by far the greatest part of that rise occurring in c.1809.

From those farms we can turn to the hill sheep farms on the north slopes of Cheviot, places with names such as Fleup and Harrowbog. In all there was about 6,800 acres of rough grazing here, devoid of any arable land and by 1790 consolidated into three farms. At various times they were tenanted by people holding other farms on the Grey Estate, in particular Horton and Coldmartin. The first point of interest among them is that in the very early years of the 18th century there were seven or eight tenant holdings,including a mill which by 1756 had ceased to exist. At that time the overall rents per acre were about 3d to 5d. In the middle of the century some small increase in rents took place which raised that figure to about 6d per acre. It remained at that sort of figure till

the renewals in the 1790s when it was doubled to over 1/- per acre. After that date wide differences appear between one of the farms (Fleup c.3,000 acres) which remained a holding unconnected with any other farm on the Estate, where the rent rose to over 2/- per acre, and the others which were held with lowland farms and run by hired shepherds, where the rent having risen to 2/- in the 1814-28 period then fell by half back to 1/- per acre. As a result of these differences, in one instance the overall increase in the 1750-1850 period was of the order of eightfold, while in the others it was only a little over fourfold. In either case the increase cannot be put down wholly to price changes and must therefore be attributed to the improvement in management and in the quality of the sheep kept on the farms, in the post-1790 period particularly.

The only other farms on the Grey Estate that I want to deal with at this stage are the few agricultural holdings in the Howick area. In most cases the rents are obviously not a true reflection of the value of the place, but the farms were held almost as 'Grace and favour' residences of persons connected with the family. In addition to this, the size of the farms varied considerably over the period and in many cases it is impossible to discover the exact size of the places at any given time. To this general rule there is, however, one important exception - Hawkhill- another example of a large farm on the site of a previous hamlet. In 1740 it was held at £100 which on the 700 acres of agricultural land was equal to an average of c. 2/10 per acre. In 1742 the same tenant took it for a further 21 years and the rent was advanced to £250 (or 7/1 per acre). At the next letting a new tenant took the place at a rent of £330 (9/2d per acre) at which figure it remained till 1783. For the next nine years

it was in the hands of Sir Henry Grey, and was then relet at £650 p.a. till 1813 (c.18/6d per acre). In 1813 the rent was raised to £1,000 (28/9d) at which figure it remained till 1834. At that time there was a considerable depression in agricultural prices and the problems of renewal were very great, as can be seen in this letter from Lord Howick to his father:

Howick, Dec.3rd. 1833.

> 'With respect to Hawkhill I am very much afraid (that) you will not be able to get the present rent from any good tenant as both Mr.Anderson and Mr.Robson (the agents) tell me that the farmers are complaining more than ever, and that there is a great deal of land to be let in the County. .... it would be better to have an estimate of what it would cost to put the present buildings into repair and also the expense of new ones in a more convenient situation. Mr.Robson says he thinks it would make a difference of £100 in the rent if the buildings were better placed.'

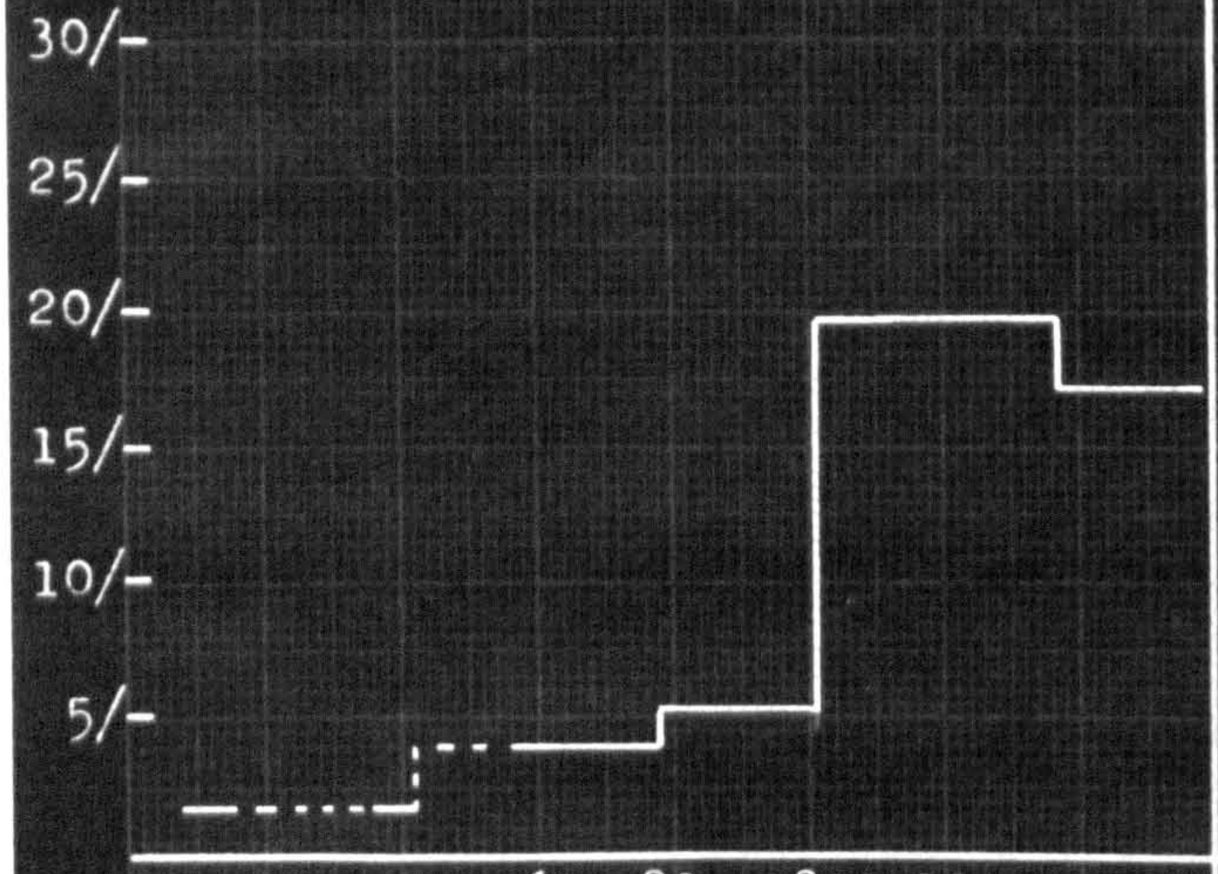
A good tenant was found in Thos.Chrisp (later to win a number of awards in this country and in Paris for his cattle) but the rent was reduced to £860 (just less than 25/- per acre) and the lease was only for 9 years. At that stage nothing was done about the buildings but when a new lease was negotiated in 1842 by the same Mr.Robson he achieved a rise in the rent back to £1,000, but had to agree for a new house to be built to cost not more than £1,000 and for the landlord to spend £200 per annum on drainage for which the tenant would pay 5%. On the basis of this lease the tenant was paying in 1849 £71. 9. 2 interest on drainage, a rent of 28/9 per acre and a tythe rent charge of £171.

From this single instance can be seen the correlation between landlord investment and the maintenance of rents, particularly in the 1840s, for between 1842 and 1849 the net rent of the Greys was only an average of £659 per annum. Over the period as a whole it can however be seen that the rent pattern of this farm conforms fairly closely to that of the first group with a marked increase in the 1740s and again during the

GREY ESTATE.

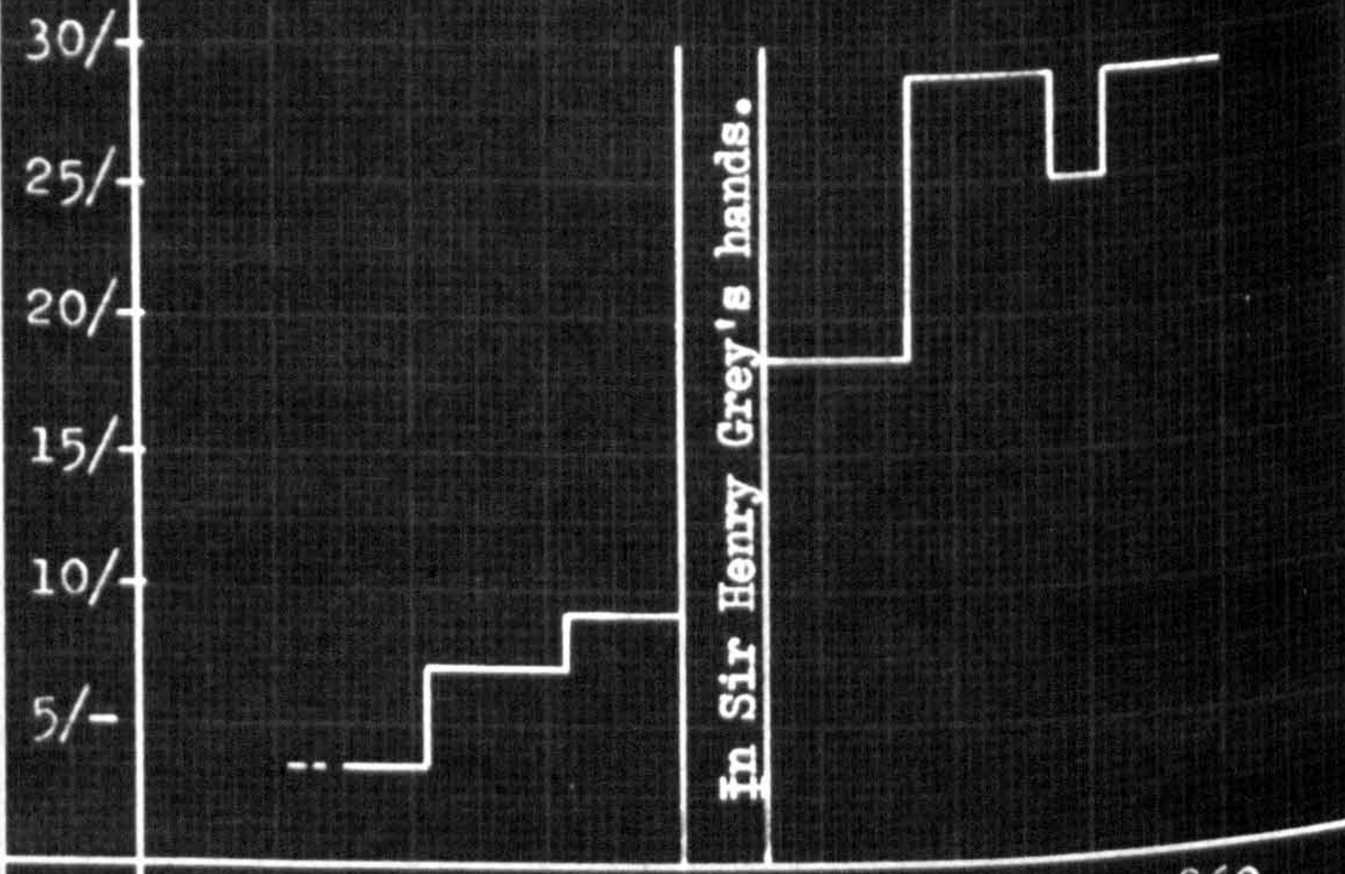
(Group 'D')

Millfield Hill.720 acres.
Liable to tythe
931 acres post c.1795.



(Group 'F')

Hawkhill farm. 700 acres effective land: reduced during period 1830-40 to c.620. Liable to tythe.



ALLGOOD ESTATE.

Brandon & Reavely Estate.

Brandon Hill Head farm.
520 acres effective land
Tythe free.

Brandon & Reavely East side farm.
c.1,550 acres.
Tythe free.

Napoleonic War period followed by a downward pressure which was only partly alleviated by heavy landlord spending. (See ~~otor for~~ graph of rent of this farm).

I shall now leave the Grey Estate and turn to the outlying portions of the others before discussing the comparative movements of rents on the three estates in the Bamburgh and Berwick areas. The first place to mention is Middleton Hall on the Greenwich Estate, a farm which in 1737 contained 550 acres of 'in ground' and a further 450 acres of 'outground' or rough grazing. On this farm during the 18th century there was a gradual increase from £131 in the days of the Radcliffes to £260 in the 1790s, which had taken place at the relettings in 1758 and 1779. In 1803 the rent was raised to £1,100, a fourfold increase, which if we may believe the evidence of the tenant was due to malicious enemies putting in tenders for the farm which they had no intention of taking but simply to make the sitting tenant raise his bid. Despite this, the rent remained at that figure for the next 21 years and was then reduced to £850 at which figure it remained till the tenant purchased the farm from Greenwich for £28,000. In this case the size of the increases, save for 1803, were not very great but overall are of the same order as those on the Grey Estates in the same area, particularly Horton.

The two lower graphs refer to farms on the Allgood estate near Brandon containing about 3,300 acres divided into three holdings by 1770. Here the unwillingness of the landlords to grant long leases can be seen at once in the graphs opposite which show the rent of the Hawkhill and Millfield Mill Farms on the Grey Estate, and two of the Brandon farms. This uncertainty is particularly marked in the post-war period, but even

before then there had only been one twentyone year lease. On two of the three farms there was a considerable acreage of rough grazing which kept the rents down to below 16/- in the case of Brandon and Reavely Eastside, and below 9/- in the case of Reavely Westside. On the third farm, however, in the absence of such land the rent rose to over 30/-. It is noteworthy that here, unlike the Grey farms or those of the other estates in this area, there was a rapid turnover of tenants - in no case was a family at the same farm for more than 65 years, and in all but one the longest stay was less than 40 years. Another interesting feature is that when longer leases were granted they normally included an increase in the rent which was either to take place after three, five or seven years, for example the lease of Reavely Westside in 1772 raised the rent by £10 per annum for the first five years and by a further £5 for the remainder of a twentyone year lease. Because of the rapid changes in the rents owing to short leases the figures for the three farms are given in the table below and not discussed in detail farm by farm.

Table 4. 'Rents per acre of the farms on the Allgood Estate near Brandon (Northumberland) at ten-year intervals 1740-1850'

Year	Brandon Hill Head	Brandon and Reavely Eastside	Reavely Westside
1740	5/5	2/2	1/11
1750	5/5	3/-	2/1
1760	6/2	3/-	3/5
1770	7/10	4/4	3/6
1780	7/10	4/4	3/7
1790	10/9	7/6	3/7
1800	10/9	7/6	6/4
1810	30/9	13/5	7/8
1820	30/7	13/5(?15/6)	8/6
1830	?24/6	13/5	7/7
1840	24/9	11/10	8/3
1850	24/9	12/6	7/11

From this table the main points that emerge are that in two cases on re-letting in 1803 the rent was substantially increased (nearly 200% in the case of the already higher rented farm and nearly 100% in the other), and thereafter the rent fell by some 20% before 1840. In the pre-1803 period in both these cases there were substantial increases in the 1760s and 1780s, while on the other farm an increase took place in the 1750s and the 1790s which was larger than anything that occurred between either 1800 and 1810 or the next decade. Lastly it should be noted that in the third case no substantial decline in the rent took place and that when it was re-let in the early 1850s the rent reached its highest point (8/8d per acre).

It is unfortunate that for the Eslington Estate the records, though extremely full for some parts of the period, do not make it possible to produce a complete record from the purchase in 1719 to the 1850s. From what there is, however, in the way of information the most striking thing is the very great increases which the new owners achieved in the first few years after 1719. When let from May 1720 many of the farms showed an increase of nearly 100% as a result of which the rent per acre of some of them rose to c. 8/-; for example, at Hawbalk the rent was raised from £23 to £43, and at Eslington Middle and West Farm the increase was from £56 to £100. From 1721 to 1784 there is no information to let us know how easily, if at all, these higher rents were paid, or when any alterations took place. In the case of the Thrunton Farms by 1732 we do know that all the tenants were heavily in arrears - in some cases more than a year's rent - and George Liddell was obliged to take a number of the farms into his own hands and run them at a loss while lime was extensively applied and other improvements carried out.

So scanty is the information from then till 1838 that it is only possible to state tentatively that it appears that by the 1780s an increase of c.50% had taken place over the increased rents of the 1720s and that between then and 1838 rents rose by between 100% and 150%. Because of the lack of information it is not possible to state whether the 1838 rents were lower in any appreciable measure than those of twenty-five years before, nor what type of lease was normal on this estate.

After 1838 complete accounts have survived from which it can be seen that in all but two cases the rents did not fall by any appreciable amount in the 1840s and '50s. During that period, however, an abatement of 10% was given in 1849 and 15% in 1850-52. During the 1840s an increasing annual sum was spent on drainage, rising in the 1852-4 period to over 25% of the gross rent income, while an additional 5% was spent on new buildings and repairs on an average of the years 1838-54. It would seem that only a landlord who had other forms of income could afford such heavy expenditure over so long a period and that the maintenance of the lease rents was achieved because of the coal interests of the Liddells which subsidised the agricultural side of their affairs indirectly.

We can now turn to the farms in the Berwick area owned by the Grey family, Greenwich Hospital, and the Crewe Trustees. The largest of these estates was that of Greenwich Hospital at Scremerston (nearly 3,000 acres), the next was the Ancroft estate of the Greys at 1,750 acres, and the smallest Thornton (1,250 acres) belonging to the Crewe Trustees. The first point of difference that must be born in mind is that of methods and types of letting. Greenwich Hospital (as stated in the introduction, p. 19) was forced to advertise the farms for tender and the highest bidder

had to be accepted unless very good reasons could be brought forward against him. The Greys only advertised when no agreement could be reached with the sitting tenant or by private arrangement with some other person, but in both these cases it was usual to grant a lease for 21 years. The Crewe trustees, on the other hand, never granted leases but the tenants held their farms at will. This meant that the trustees were able to raise the rents when they felt fit as a result of a valuation to so do. Another point to remember is that this was a small but no less locally important coal field providing not only the local demand but some coastal traffic from Berwick.

In the absence of any ground higher than 200' the only restriction to farming lay in bad drainage (particularly near Thornton) and the links near the Sea. When the agents of Greenwich Hospital visited it in January 1737 they wrote:

> 'We think Scremerston the most improvable thing in the whole estate, as the land is naturally good and plenty of limestone and coal upon the ground.' (1)

The quality of the land was, of course, variable, but if the Rector of Berwick's estimates of 1801 are at all trustworthy they are remarkable in giving for wheat 30 to 36 bushels per acre, for oats 56 bushels and a value of £7 per acre for turnips ,(2) at which yield they were higher than any other parish in the diocese for which estimates were given. A survey of 1823 of the Thornton farms suggests rather less impressive yields, giving for 1822 for wheat c.24 bushels per acre and for oats between 30 and 36 which are lower by a fourth part than those of Howick Farm in the same year. In the face of this rather conflicting evidence we must leave the yields an open question, but on the related problem of cropping there is no such conflict. For Greenwich there are no cropping returns,

(1) P.R.O.Adm.66/105,p.54, letter dated Jan.27th 1736 (old style)
(2) P.R.O.Home Office 67 /8 Returns of Various crops 1801, Durham Diocese.

but for the other two estates figures have survived which show that c.1825 on their farms the amount of grassland varied between 80% and 30% of the whole farm and had generally fallen substantially in the previous 25 years. There is evidence to suggest that here there was widespread ploughing up of grassland in the first decade of the 19th century, and on the Thornton Farms in 1823 apart from bogs no farm contained more than 15% of old grass. At Ancroft this is less pronounced but even there the amount of tillage land rose between 1805 and 1825, in some cases by nearly one half.

Apart from the Colliery farms and the Public House at Ancroft, none of the other holdings were less than 250 acres, and in 1820 four of them were over 1,000 acres. As a result of this there is no doubt that the tenants were socially almost lesser gentry, although few of them even had a vote on the basis of a 40/- freehold in the pre-1832 period. From the few letters which have survived from them they were obviously well educated and progressive in their ideas. When in April 1833 the Secretary of Greenwich Hospital came to the rent dinner at Belford he wrote in his diary(1)

> 'I enjoyed the contemplation of such a respectable assemblage of tenants, so superior to the general body occupying the other parts of the property.'

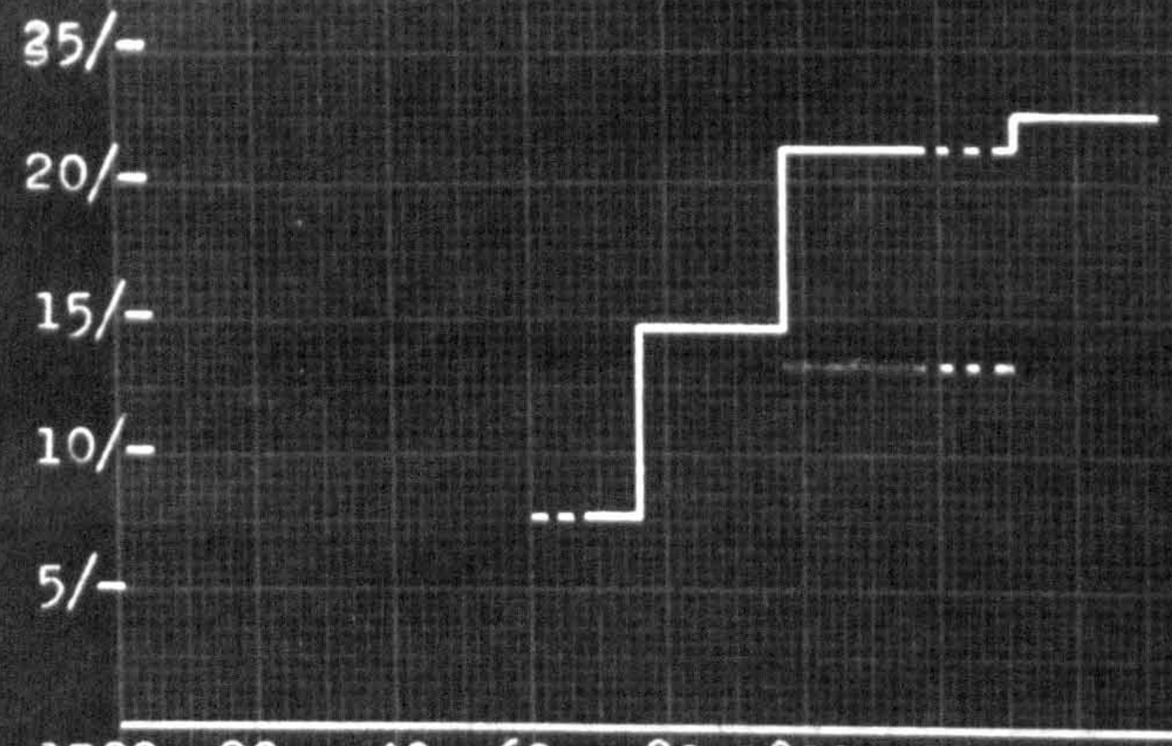
With this background we may now examine the changes that occurred in the rents of these farms between c.1750 and 1850. Only in the case of the Greenwich Estates is it possible to go back beyond the 1750s with any certainty, but in their case it is interesting that there was a considerable increase in both 1737, when the first long leases were granted by the new owners, and again twenty-one years later. Even so in the 1760s they were still lower than those on the Grey Estates which were let at about

(1) P.R.O. Adm. 80/16 Diary of Hooper, entry of 16th April 1833.

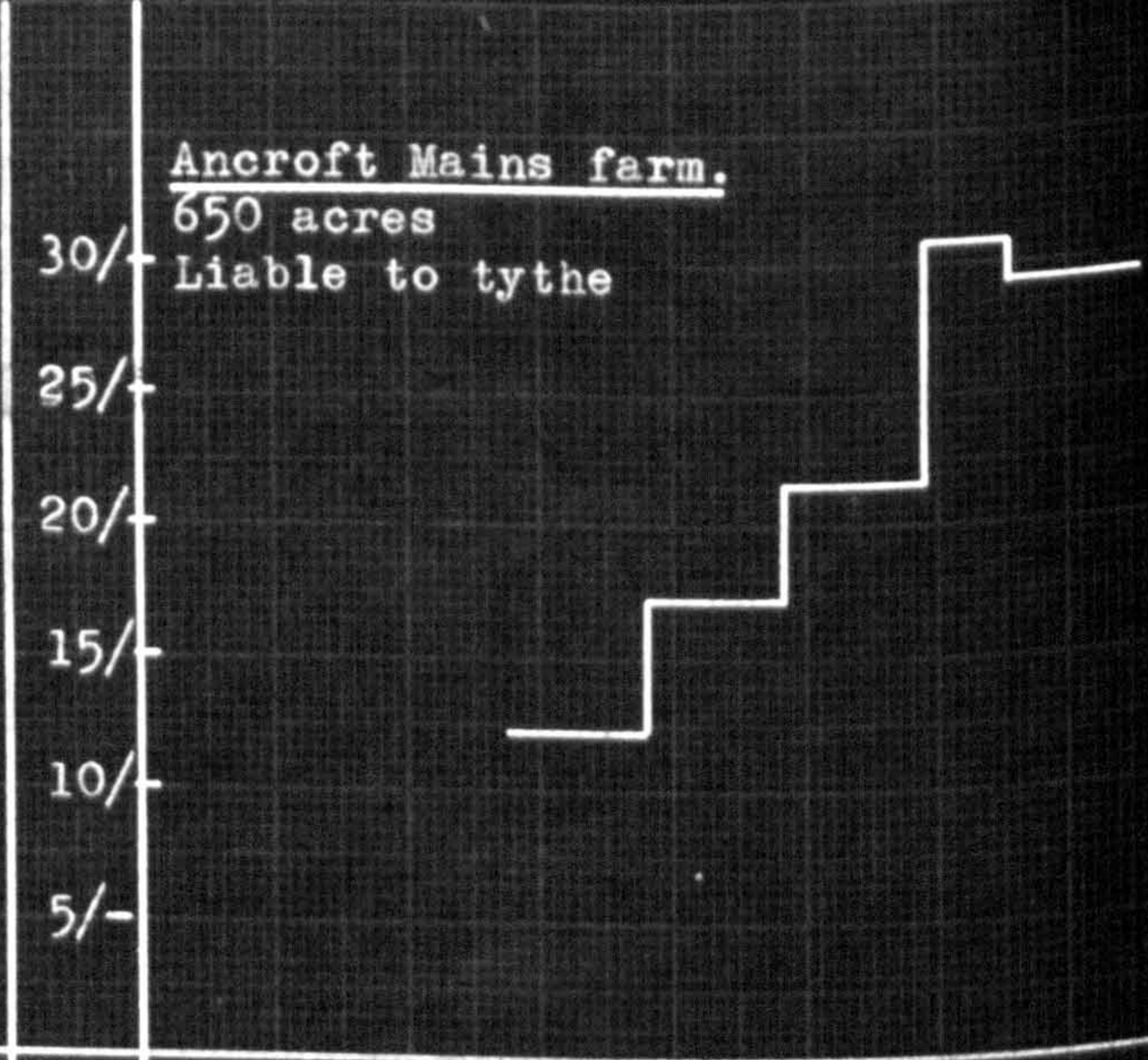
the same date, but considerably higher than those on the Crewe Trust Estates which one suspects had not risen since the time of Nathaniel Lord Crewe himself. Even the changes on this last estate in 1767 still left them far behind the others. In the period 1775-1780 all three estates changed their rents, the smallest proportional rise being at Thornton and the greatest at Ancroft. Both there and on the Greenwich Estate, however, there was a rise of nearly 100% on the old figure, which, however, still left the Grey farms with a rent about half as much again as the Greenwich ones.

As a result of revaluations the Thornton rents rose sharply in 1796, 1802 and 1808, so that in twelve years there was in one case a four fold increase and even the farm least affected went up from 4/- to 12/6d per acre. It is interesting that all these valuations and a further one in 1819 were carried out by the same person who had been appointed as Land Steward in 1792. After valuation the tenants were informed as to their new rent, and other than quitting the farm there was little they could do to modify the figure. Despite this there was very little change of tenants and one has a suspicion that even after these increases the farms were still not dear and that the Trustees were very kindly landlords. As an example of the scale of revaluations we can take the farm of Thornton Southside, which was let at £125 from 1778 till 1796. In 1795 it was valued at £299 (10/2 per acre), in 1807 a reduction of 18 acres brought the total size down to 566 acres which were valued at 19/3 per acre, but then had one-sixth deducted for Tythes which reduced it to 16/1d per acre. It is rather surprising that in 1813 it was only valued at 17/6d per acre, while in 1819 it had risen to 22/- per acre.

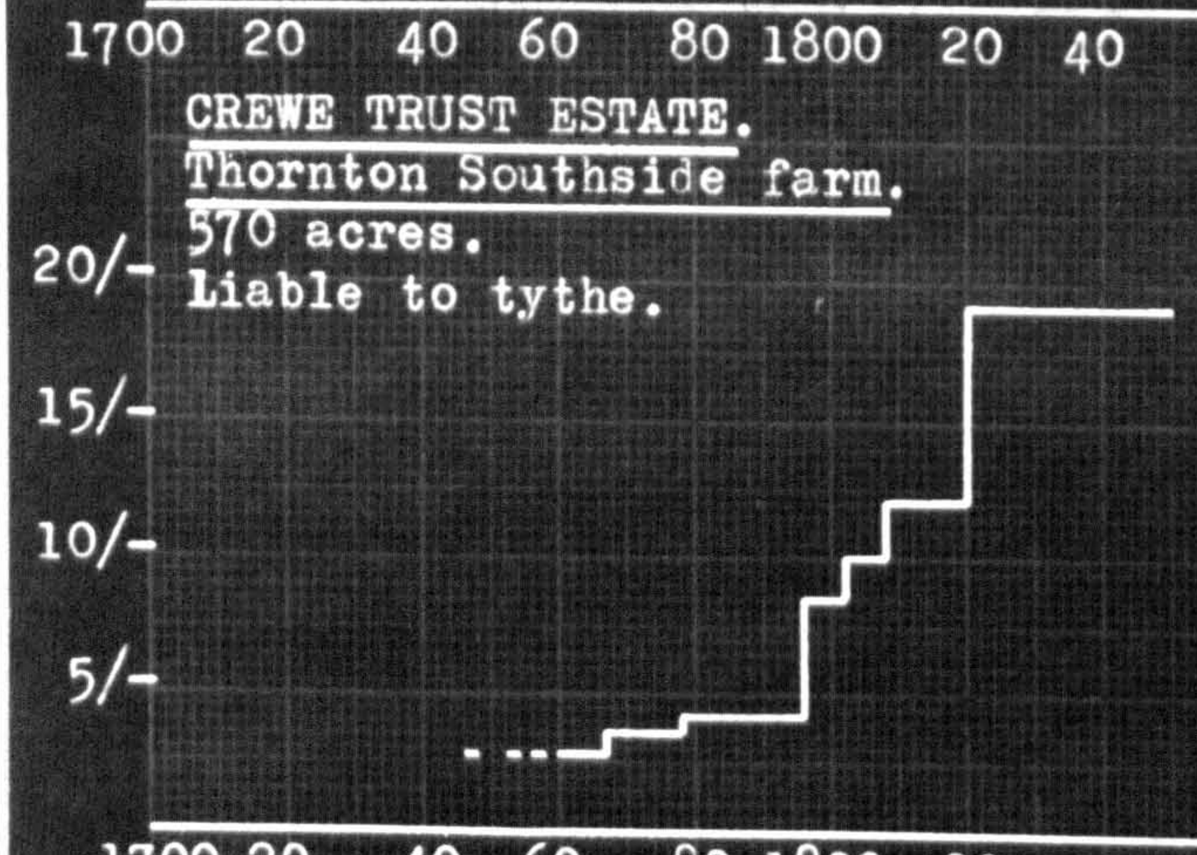
GREY ESTATE.
Ancroft Town farm.
750 acres
Liable to tythe



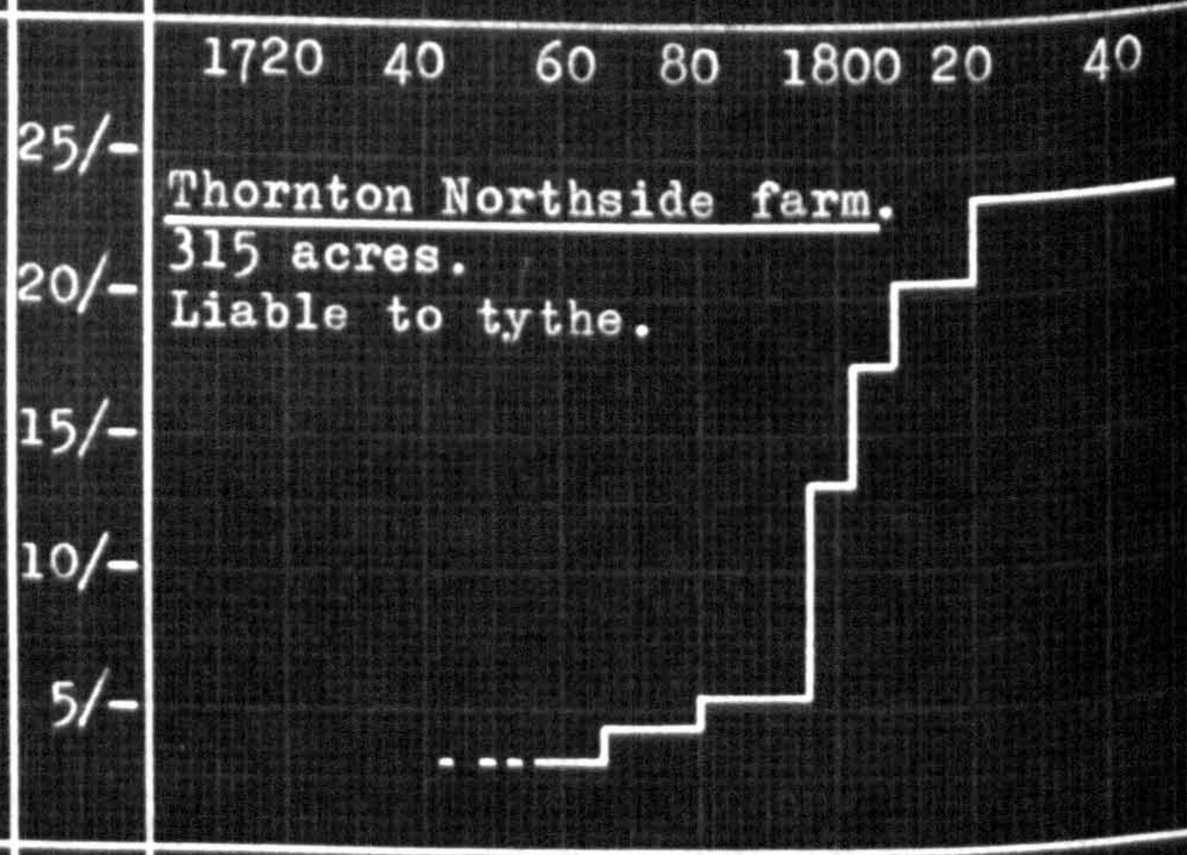
Ancroft Mains farm.
650 acres
Liable to tythe



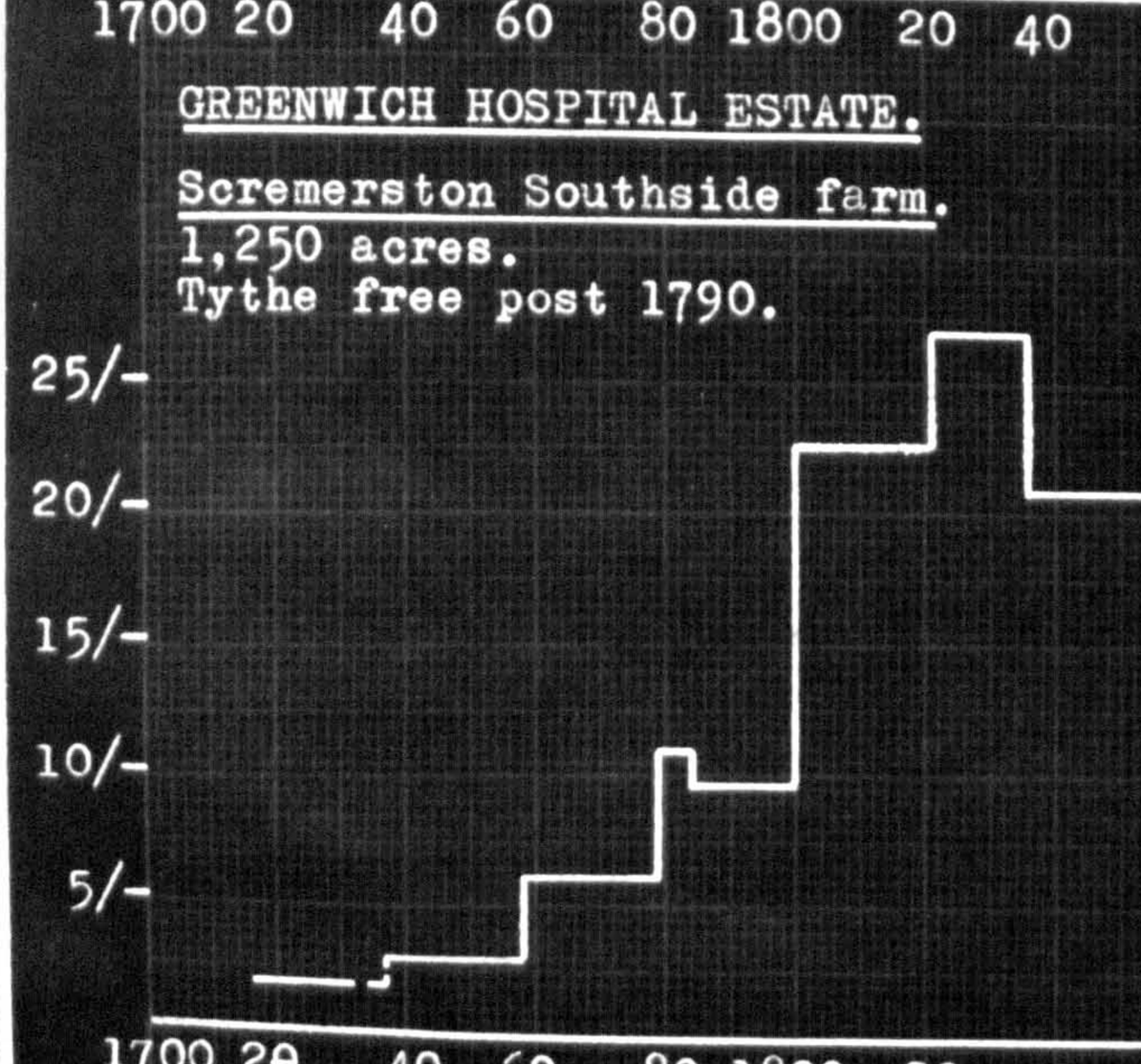
CREWE TRUST ESTATE.
Thornton Southside farm.
570 acres.
Liable to tythe.



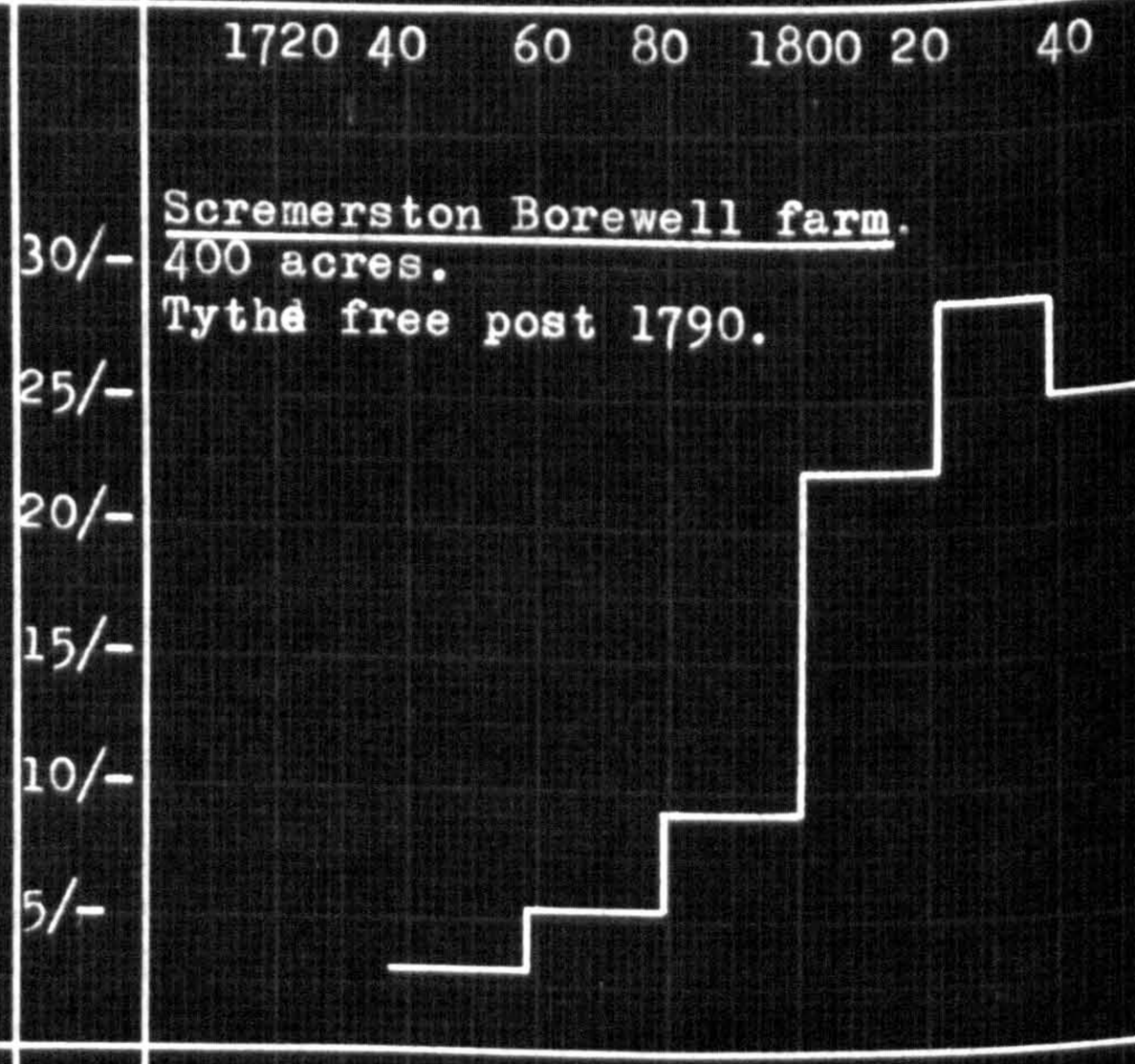
Thornton Northside farm.
315 acres.
Liable to tythe.



GREENWICH HOSPITAL ESTATE.
Scremerston Southside farm.
1,250 acres.
Tythe free post 1790.



Scremerston Borewell farm.
400 acres.
Tythe free post 1790.



On the other two estates 21-year leases were entered in 1797 and 1800 which were then renewed in 1818 and 1821 respectively. On the Grey estate the rise in 1797 was much smaller than was the case with the Greenwich farms re-let three years later. On the former it was at most 50% up on the old rent and on the average nearer 30%, while at Scremerston the rise was spectacular, being over 100% in every case. In most cases there was a further increase in the late 1810s which brought the rent of one of the Grey farms to over 30/- per acre and on all the Greenwich ones to over 20/- and in most instances to over 25/-.

It is in this period that the different methods of letting the farms had the most obvious effect, with the letting by tender method used by Greenwich certainly producing the greatest increases, the Crewe trustees method allowing the rents to be frequently reviewed and thereby enabling more gradual increases to take place in conformity to the changing value of the land, and the more personal ways of the Grey family appearing to have little advantage in terms of landlord's income.

The graph opposite shows the rents of six farms (two from each estate) which illustrate clearly these trends, but it might well be that the higher rents obtaining on the Grey Estate prior to re-letting in 1797 was in large measure responsible for the smaller size of the increase that then took place. However obtained, by the 1800-20 period most of the rents in this area were between 20/- and 25/- per acre with variations occurring largely because of the presence of poor land in the form of ill-drained bog being responsible for any variations within or from this general rule.

In the post-war years again differences show themselves; in the case

of the Thornton farms the rents which were agreed in 1820 remained in force till at least the 1850s, while on the Greenwich Estate there were large reductions in the 1830s. On the Crewe Estates 10% abatements were granted from Mayday 1822 till Martinmas 1825 and again from May 1834 till Martinmas 1838 (all inclusive), but in every case the rent remained basically unaltered. On the Grey estates there was some variation, as can be seen in the graph of the two farms cited above, with some of them dropping considerably in the 1830s, while others even rose slightly. The same downward pressure seen among the Chevington Farms in the 1840s was met by the adoption here also of 'Corn rents' c.1850. For example, the Eastside farm where there had been a 5% reduction in 1831 had over £2,000 spent on drainage between 1840 and 1849, and yet in 1850 a new lease was agreed on these terms:-

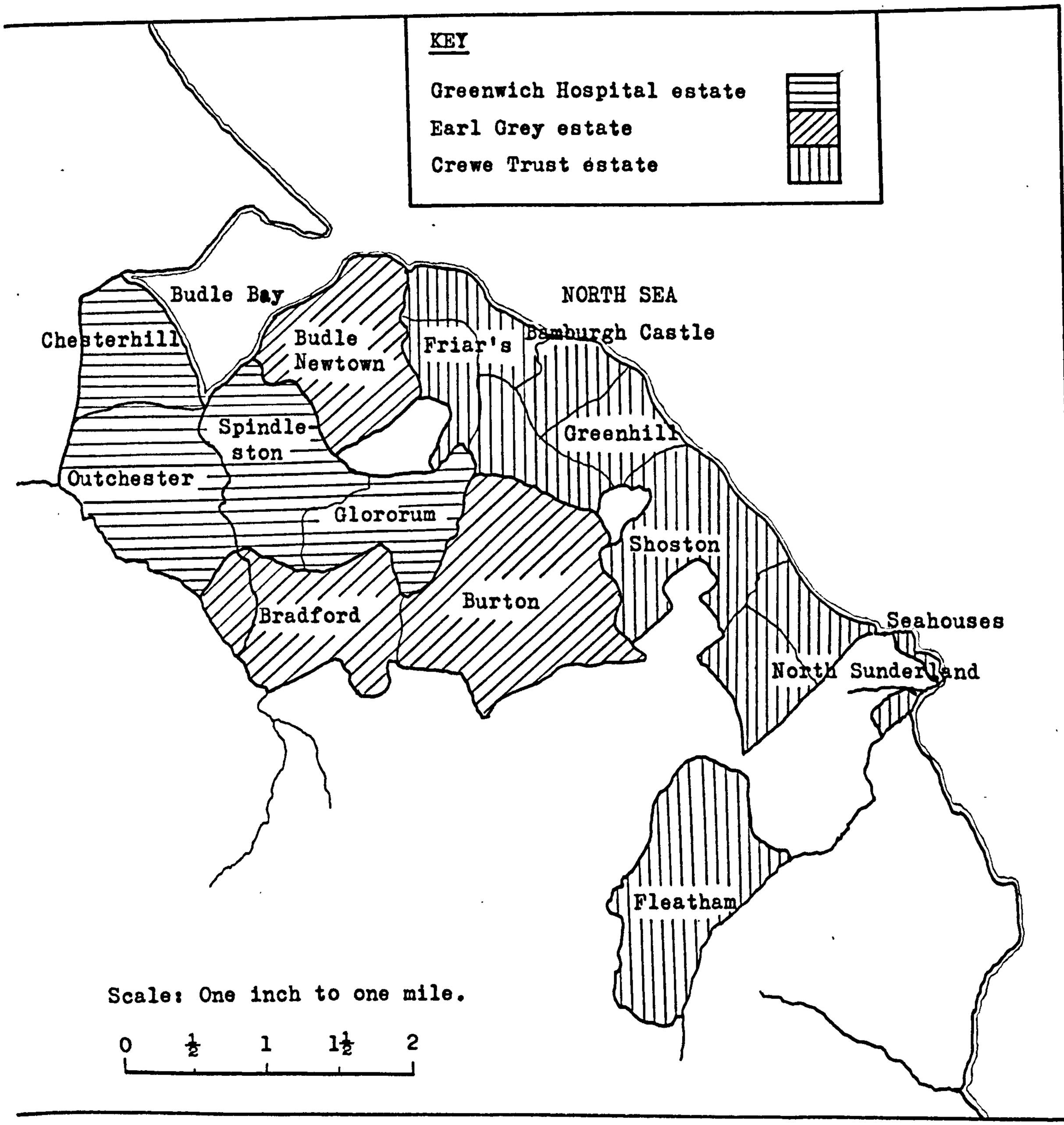
£20 in cash

300 quarters of wheat
260 quarters of oats
40 quarters of barley

At the same time the landlord took over responsibility for the tythes which had been commuted for £170 p.a. The tenant informed the 3rd Earl that the average income and expenditure on the farm between 1835 and 1849 had been £1,121 on rent and tythes, and £562 on labour, etc., while his income had been £1,127 from corn and £576 which, if true, would have left him losing £20 a year. As a result of this new lease the rent, when wheat was at 40/- per quarter and oats at 20/-, would be equivalent to £920, or 28/10d per acre, a fall when tythes are taken into account of nearly 10/- per acre in the tenant's outgoings.

On the Greenwich Estate the fall in rents took place in the mid 1830s

THE BAMBURGH DISTRICT.



soon after John Grey had become agent, but they were then maintained during the 1840s and early '50s. In March 1834 Grey made this entry in his Journal concerning a petition of the tenant of one of the Scremerston Farms (I have not been able to find the actual petition among the Greenwich papers).

> 'It is hardly necessary for me to make any remarks on the subject in addition to those upon the ruinously low prices of grain, during the whole of the present season the Berwick Market has been throughout the lowest in the country, and Mr.Hogarth's statement is a confirmation of what I have often repeated to the Board: that a farmer almost exclusively dependent on the growth of corn is in a most hopeless predicament.' (1)

The size of the reduction that followed in almost every case was of the order 25% to 40%, but even so left the rent above the figure agreed at the renewal in 1820.

From the comparison of these farms it is clear that ownership and lease policy played an important part in the course of agricultural rents and that it would be dangerous in the extreme to generalise in ignorance of such material evidence. Although, as here between 1795 and 1825, changes occurred which imposed a degree of uniformity on all the farms irrespective of who owned them, this was short lived and was preceded and followed by much longer periods in which there was divergence which the quality of the land, the type of farming, and the prices of agricultural products cannot account for. At this stage I will not attempt to assess the merits of the various methods employed but turn to the other area where these same three owners had land - Bamburgh.

The map opposite shows, as accurately as the smallness of the scale allows, the location of the various farms in this area as they were in the

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(1) P.R.O. Adm. 80/19 The Journal of John Grey for 1834 Entry of Saturday, March 1st.

early 19th century.(1) The discussion of this group of farms is complicated by the fact that though on two of the estates there were only large farms of more than 400 acres, on the other there were not only a number of much smaller holdings of less than 50 acres but also the tenants of some of these smaller places were also Copyholders of other land for which we have no information, and also in some cases part-time fishermen as well as farmers. In view of this I have only used for comparative purposes the farms of over 50 acres that we can be fairly certain provided the sole means of livelihood for their tenants.

In Medieval times there was a port in the bay North of Bamburgh, but long before even 1500 it had become silted up and in its place there arose at North Sunderland, three miles south of Bamburgh, another port which by the end of the 18th century was catering for a considerable coastal trade in corn and lime as well as the local fishing fleet.

The parish return of 1801 shows the main crops at that date to have been as follows:-

Table 5. Acreage return of various crops in Bamburgh Parish: 1801(2)

Wheat	1,919	Barley	804	Potatoes	89
Oats	2,426	Peas	520	Turnips	891

Unfortunately although the crop was described as 'universally good and almost all well got in', no estimates of yields per acre were given. For the Crewe estate in 1822/3 the estimated yields varied from 24 to 30 bushels per acre for wheat, 35 to 42 bushels for oats, and turnips from 20 to 24 loads per acre. (There is no indication of the weight or size of these loads).

(1) Only part of Budle was owned by the Greys up till the 1840s and was let at a nominal rent to various members of the family.

(2) P.R.O. Home Office 67/8.

In the early 18th century there is every indication that the rural economy of this area was still almost medieval save on a few farms where enclosure had occurred and the land been turned into pasture. Even as late as 1766/7 the Sunderland part of the Crewe Trustees' estate was divided for rental purposes into 'Farms' which can only be artificial units to which the term 'farm' was applied in its medieval sense of an 'Husbandland'. At Sunderland Broadway there were 5 tenants who between them held 5 'farms' each carrying an identical rental of £15.p.a. One of the tenants, however, held 'One farm and a half', another 'One farm and three-quarters', with the remaining fractions held as 'half a farm' and a 'quarter of a farm' respectively, and the rents of this series of holdings were still calculated as exact fractions of the £15, so that a quarter of a farm was held at £3.15. 0 per annum. Although on the rest of the Crewe estate, and on the other two estates, things were organised on a more modern basis, the rents were still very low at less than 5/- per acre c.1720 in every case for which information is available.

The possibilities of the Spindleston estate were described in January 1736 by the agents of the new owners - Greenwich Hospital thus: 'Spindelston and Outchester is a very extensive thing and capable of being much improved and without expense will considerably advance'.(1) At the letting in 1737 there was an increase of £90 p.a. on that estate which represented a 16% increase on the previous figure. At the next letting in 1758 a greater rise took place which ranged from 25% to 33% and brought the rents paid per acre to between 8/- and 10/-.(2) Prior to

(1) P.R.O. Adm.66/105, p.54, letter of January 27th 1735/6.

(2) The rents of this estate are complicated by the fact that in addition to the purely agricultural holdings there was an extensive milling business at Spindleston and Waren Mills, the value of which was not always separated from the other rents from the farms.

this letting a new set of housing was built at Outchester which would appear to be connected with the division of the farm into two smaller holdings of c.500 acres each, and the estimate for this has survived. I give this in full as illustrating the type of building thought necessary for a farm of that size with about 50% arable, as well as the costs of building.

'Estimate for building at Outchester (?Chesterhill) 1758:'

Dwelling House	40'	long,	19'	broad,	14'	high outside	£90.13. 1
Milk House	16'	"	7'	"	not given		8. 0. 0
2 stables	15'	"	19'	"	9'	high inside	28. 0. 0
2 barns	30'	"	16'	"	11'	" "	67. 3. 4
2 byers	21'	"	16'	"	9'	" "	46. 8. 8
1 helme	66'	"	13'	"	not given		41.15. 0
Total							£282. 0. 1

(From P.R.O. Adm.65/78. Helme is the same word as Hemel - an open one story building used for giving cover to carts, etc. as well as young beasts).

By 1774 when all the farms were visited each of them contained more than 50% arable land and there is an interesting note that most of the grazing was for sheep and that turnips were an alternative even then to Bare fallow.

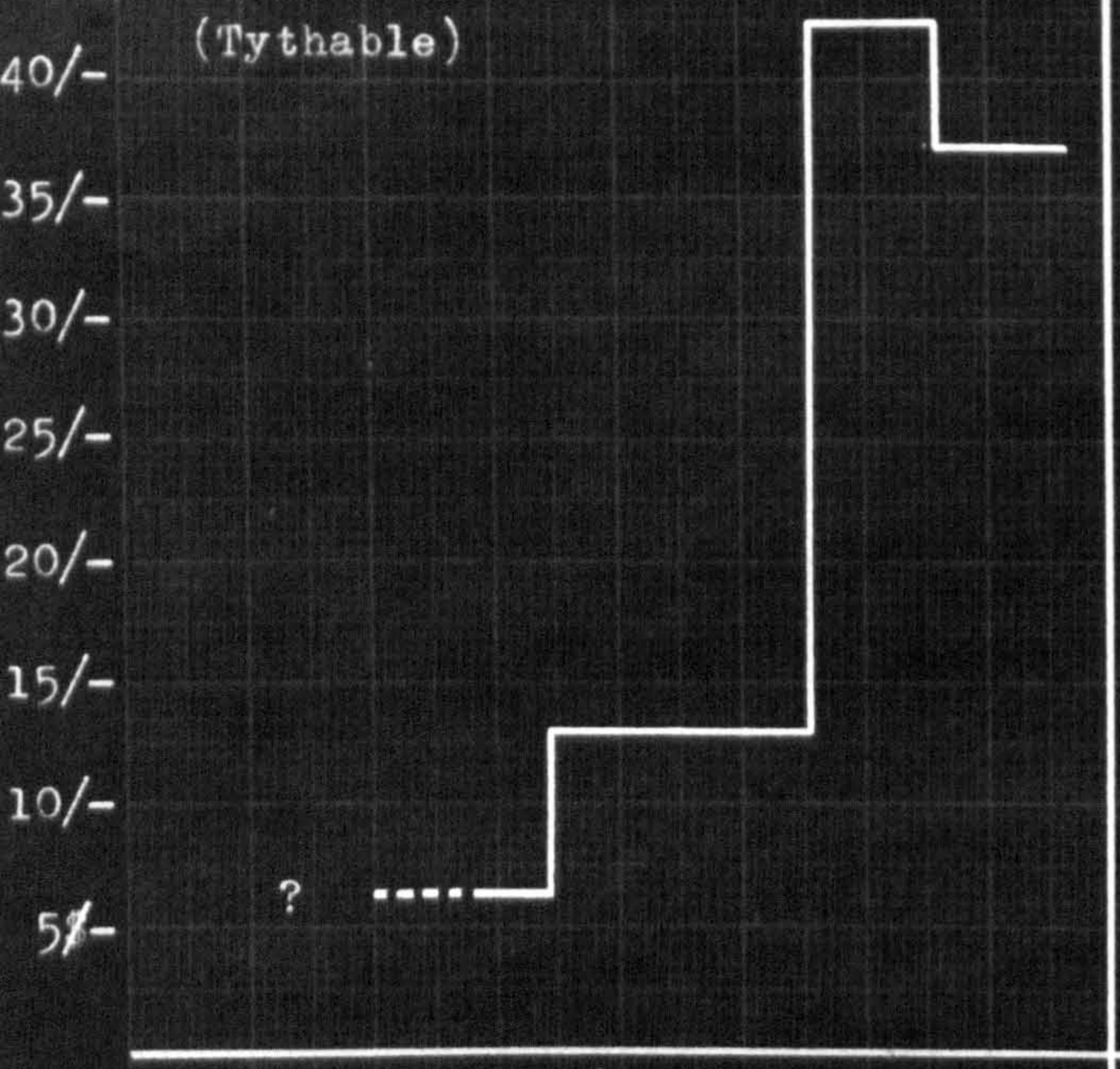
For the two farms of the Grey Estate only one (Bradford) can be taken back beyond 1756, but in that case there had been no change in the rent in the previous thirty years. In that year, however, it was re-let for twenty years and the rent increased from 5/- to 7/- per acre. On the other farm no change occurred between 1756 and 1769 during which period the rent was at 6/6d per acre; when that was renewed in 1769 the new tenant had to pay 13/- per acre at which figure it was considerably higher than the other farms in the area at that date, though, as will be seen later, it was to stay unchanged till 1811 by which time it was far lower than the others.

1766/7 saw a complete reorganisation of the Crewe estate as a result

GREY ESTATE.

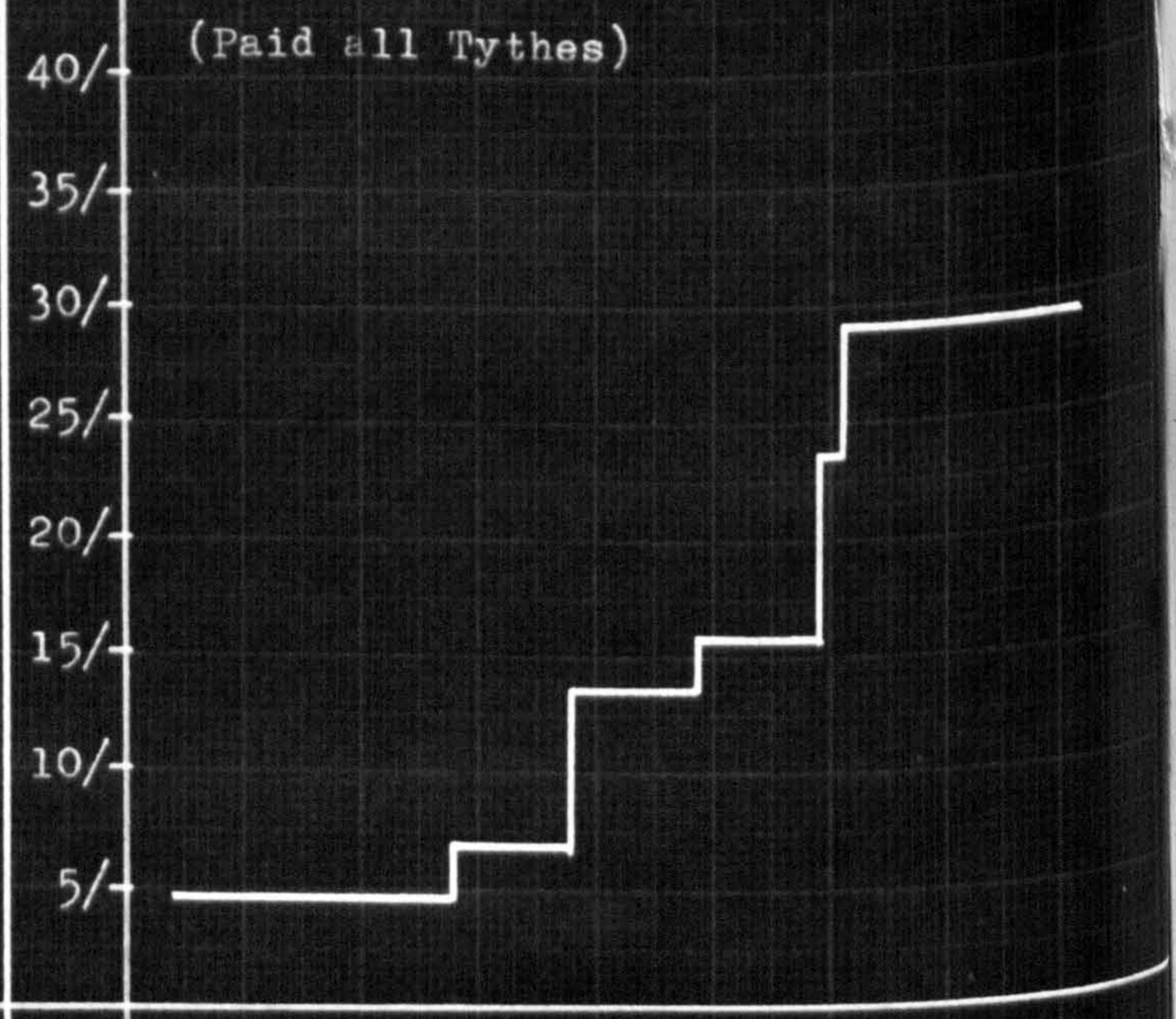
Burton Farm
(c.1,050 acres)

(Tythable)



Bradford Farm
(c.540 acres)

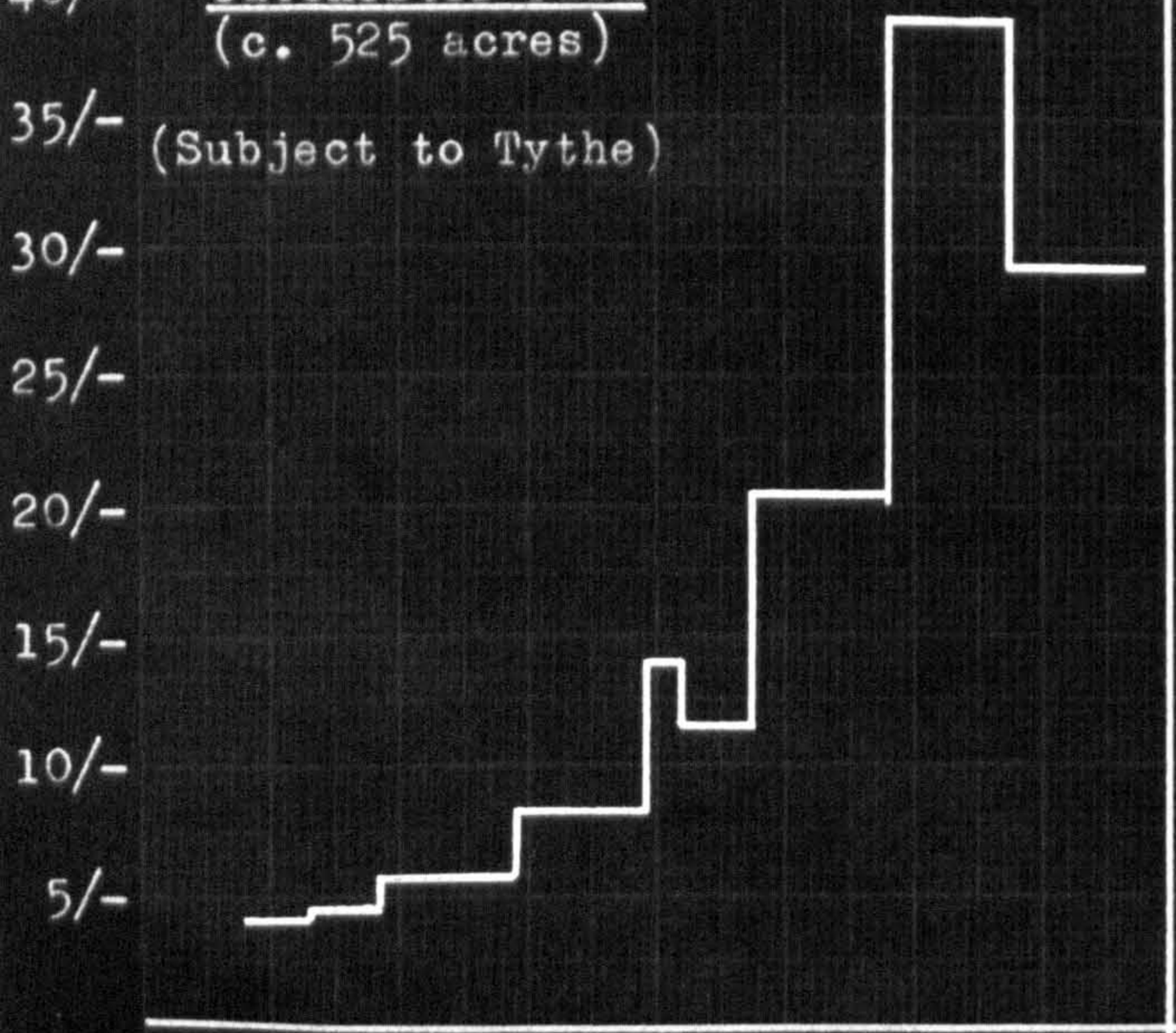
(Paid all Tythes)



GREENWICH HOSPITAL.

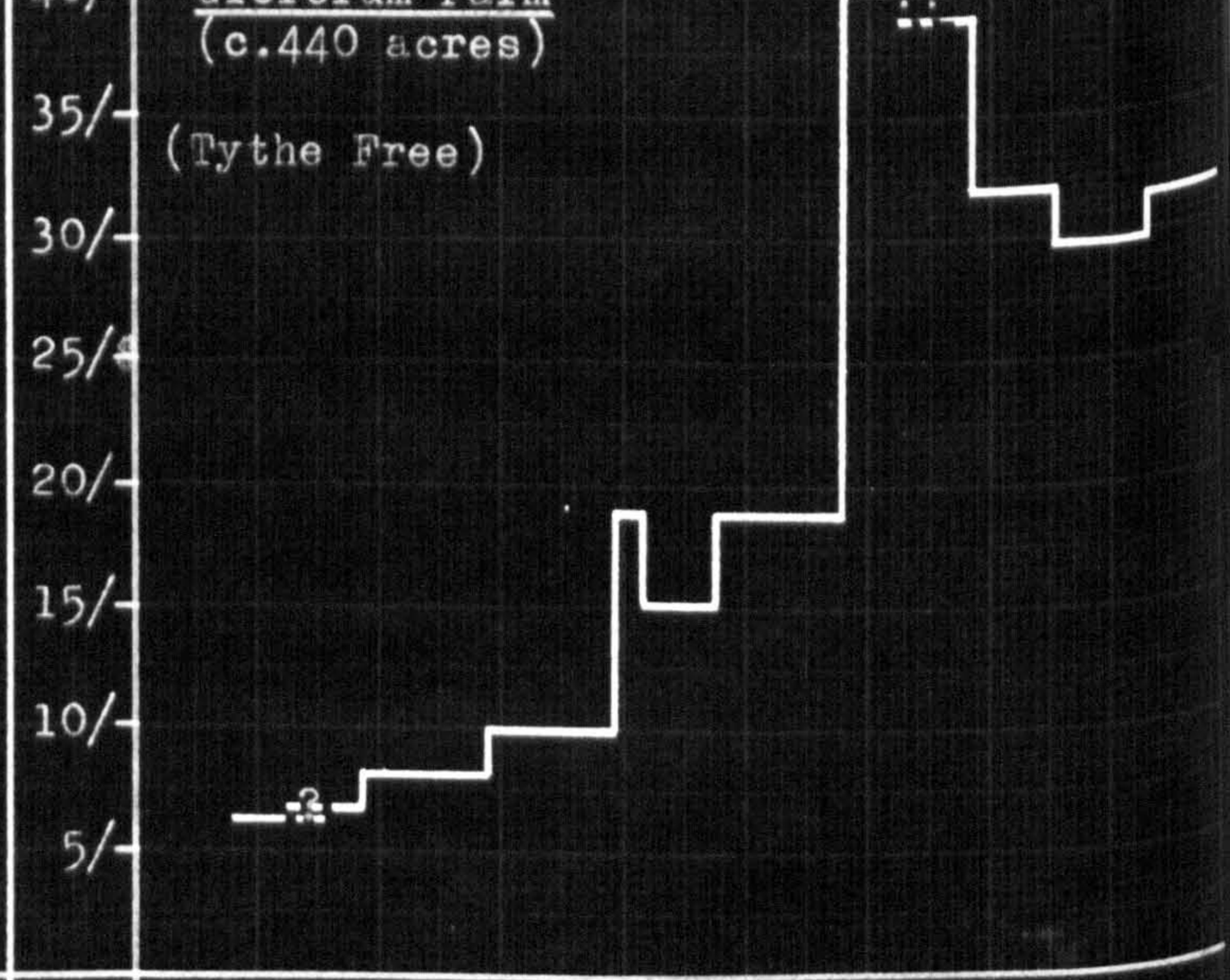
Outchester Farm
(c. 525 acres)

(Subject to Tythe)



Glororum Farm
(c.440 acres)

(Tythe Free)



of which the old methods at Sunderland were abandoned and on the other farms an increase in the rents occurred of some 15% to 25%. Unfortunately there has survived no record of the size of the farms at this stage so that it is impossible to give any figure for the rents per acre except in a very few cases, but in those cases the figure is lower than on either of the other estates (with one exception) at below 8/- per acre.

The graph opposite gives the rents per acre for two farms each on the Grey and Greenwich Estates as far as they are discoverable from c.1720 to 1850. Before examining the startling changes that occurred c.1800-10 it is worth noting the earlier changes on three of the farms in the late 1770s. In every case at the renewals between 1776 and 1780 a very considerable advance took place of approximately 60% to 80% over the previous rents. As a result of these changes the rents c.1780 of these farms were from 13/- to 19/- per acre. In the case of the Greenwich farms it is possible to compare the new rents then agreed with the valuation which had been carried out at the time of the 1774 Visitation. At Outchester Farm the valuation gave a figure of 15/- per acre, while the new lease was agreed at 14/-; at Glororum the valuation was 14/- per acre and the new lease at 19/-. The same type of differences from the valuation occurred with the other farms, one being let below and the other above the valuation figure. On the Greenwich farms the rents were reduced in c.1782/3 substantially, from 14/- to 11/6d in one case and from 19/- to c.15/- in another. Although no such decrease took place on the Grey farms there would seem to have been a severe depression which affected these farms at that time. The reasons and extent of this can be seen from this letter from John Watson, the new tenant at Glororum, to the Receivers in Newcastle.(1)

(1) P.R.O. Adm.65/78 Letters from the Receivers. This letter was sent on by them to the Secretary of the Hospital.

May 12th 1782.

'Gentlemen,

I am extremely sorry to inform you that, it is not in my power to keep the farm I at present hold of the Commissioners and Governors of Greenwich Hospital any longer at the present rent. - Markets at present are very bad, and have been so ever since I entered which added to the great quantity of manure I have laid upon my farm has occasioned me to lay out a very considerable sum of money, and without an abatement of the present rent I am no longer able to keep my farm. If I had an abatement of £125 per annum (Existing rent £425) I think I would have it in my power to keep my farm and pay my rent, and from the badness of markets and the great scarcity of servants (which makes their wages very high) I am firmly of opinion that it is worth no more. I am informed from good authority that the like abatement has been made by the Duke of Northumberland, Sir Henry Grey, Mr.Haggerston, and several other noblemen and gentlemen in this county, when they were certain the farms were too dear,(1) they having been taken a few years ago when times were good, which was the case with me for the great downfall of markets took place very soon after I entered my farm, of which Gentlemen, you are very sensible. When I viewed my farm, Miss Graham (who had it before I got it) sold her wheat at £1.10. 0 per boll and I cannot at present have more than about £1 for mine which is as good grain as any in the country.

Last year I believe the prices were rather better, but then the crops were extremely bad, mine was so much so that I did not sell as much corn as paid my servants wages and the expense of working the land etc., and as to the last crop, I have it all in my granaries and barn yard for the Corn merchants will give no more than about 20/- per boll for the best wheat; and the bad (of which there is a great quantity in the country this year) they will not buy at any price. In short, Gentlemen, without I get an abatement from this time of(f) the rent both me and my family will inevitably be ruined.'

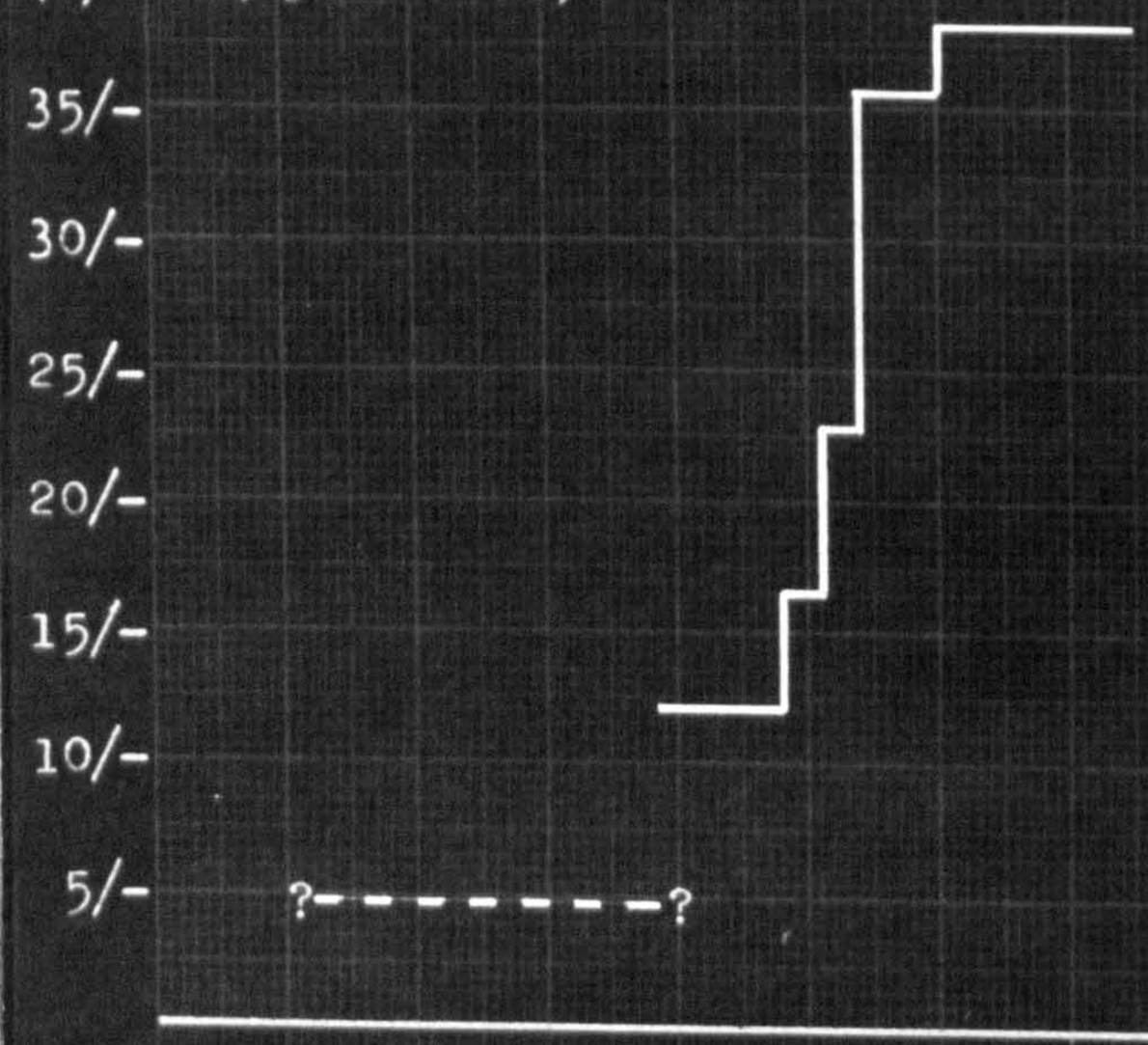
In addition to the interesting information on such things as the scarcity of labour, and the fall in prices, this letter is an excellent indication of the quality of literacy possessed by the tenants of these large farms at that date. It would seem that on the Greenwich Estate no abatement of a temporary nature was made, but the rent of all the farms was reduced for the remainder of the leases so that they did not recover to the 1779/80 figure till after the re-letting in 1795.(2)

(1) It is not possible to verify whether Sir Henry Grey had granted any abatement as no ledgers have survived for the estate at that date.

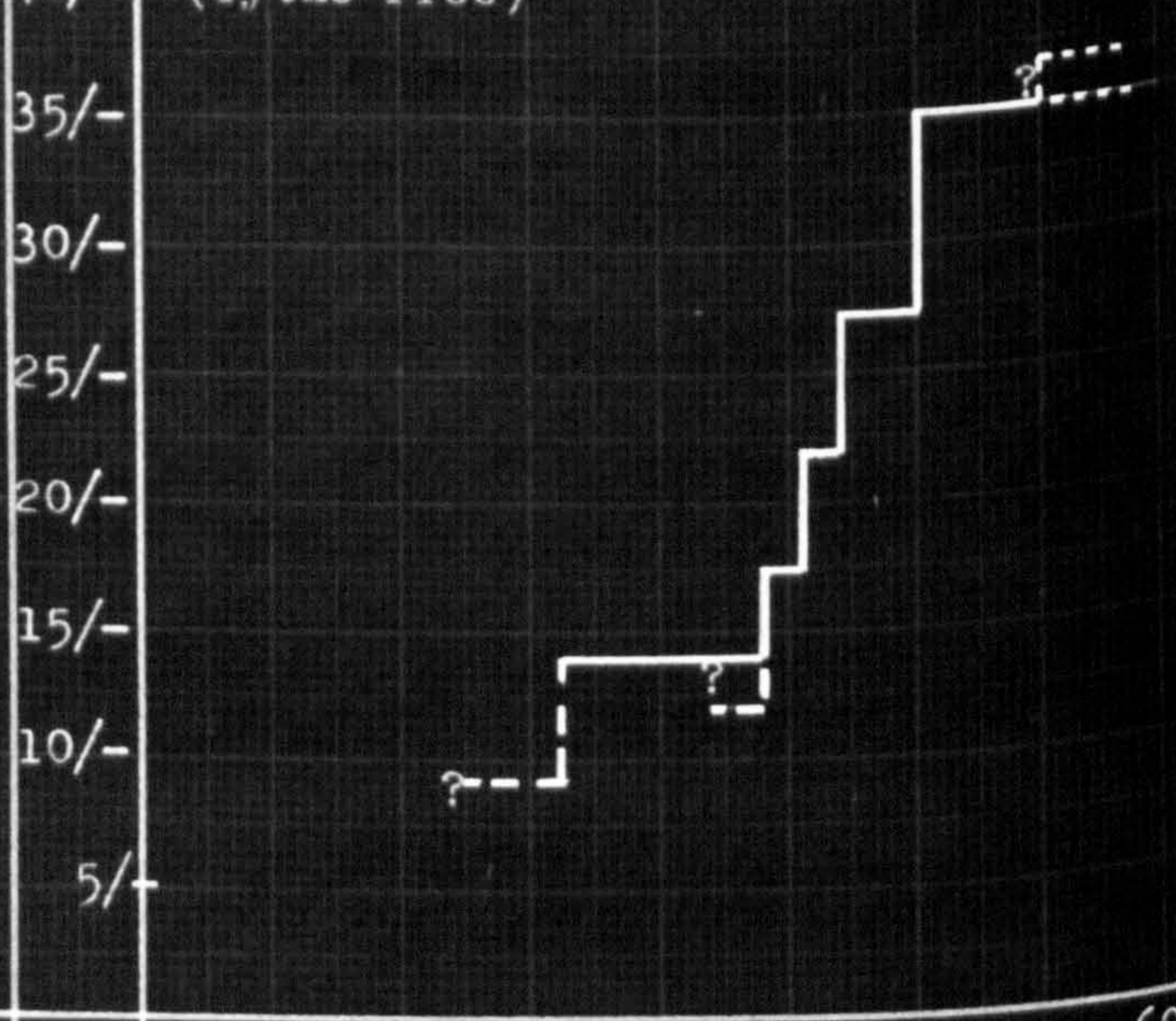
(2) I have not been able to discover whether in fact the existing tenants of 1779/80 remained in every case tenants after the reduction, or why the leases were reduced to 16 years.

Crewe Trust Estate.

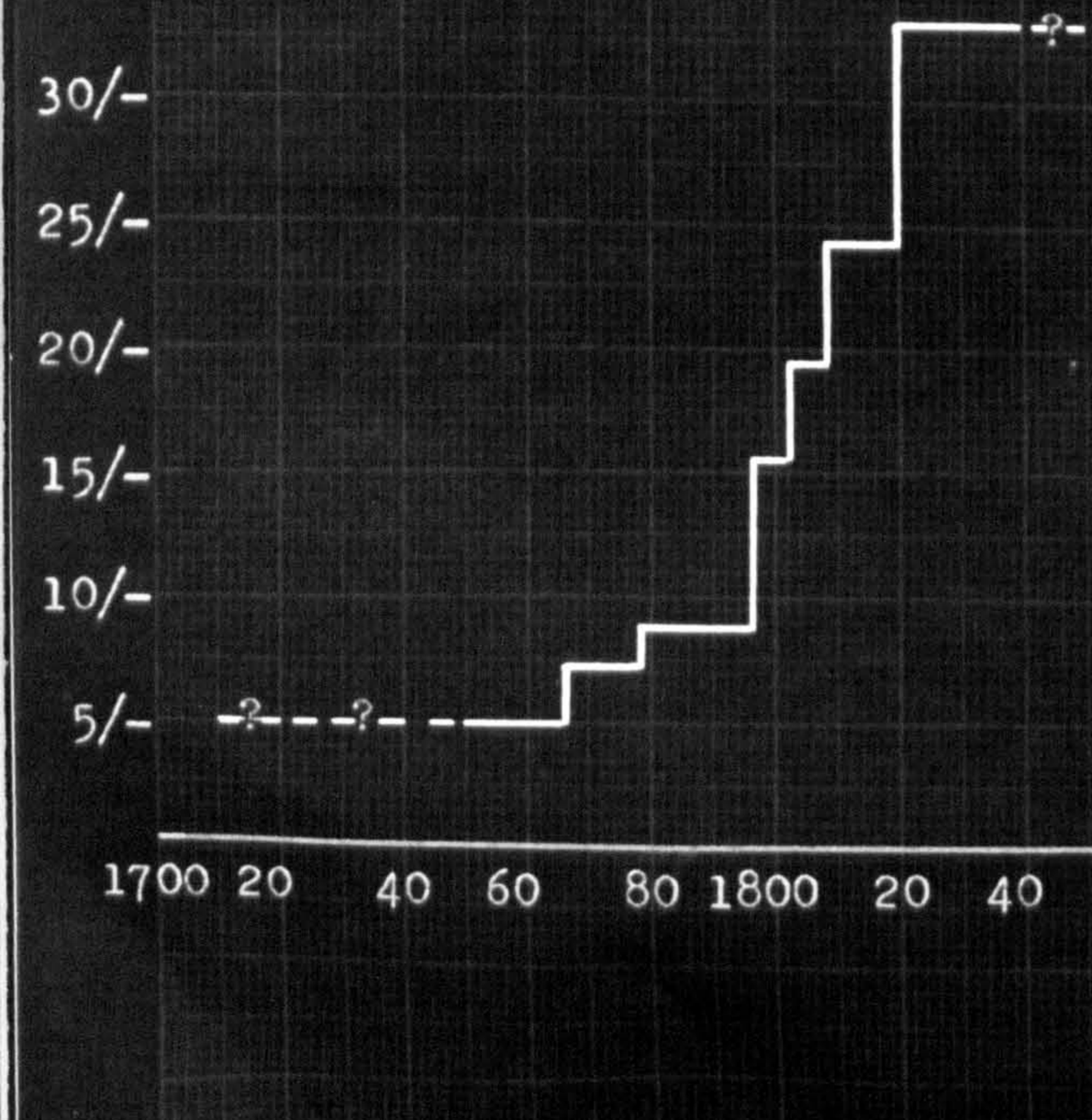
Bamburgh Town Farm.
(pre 1796 c325 acres,
post1796 c 240 acres.)
(Tythe Free)



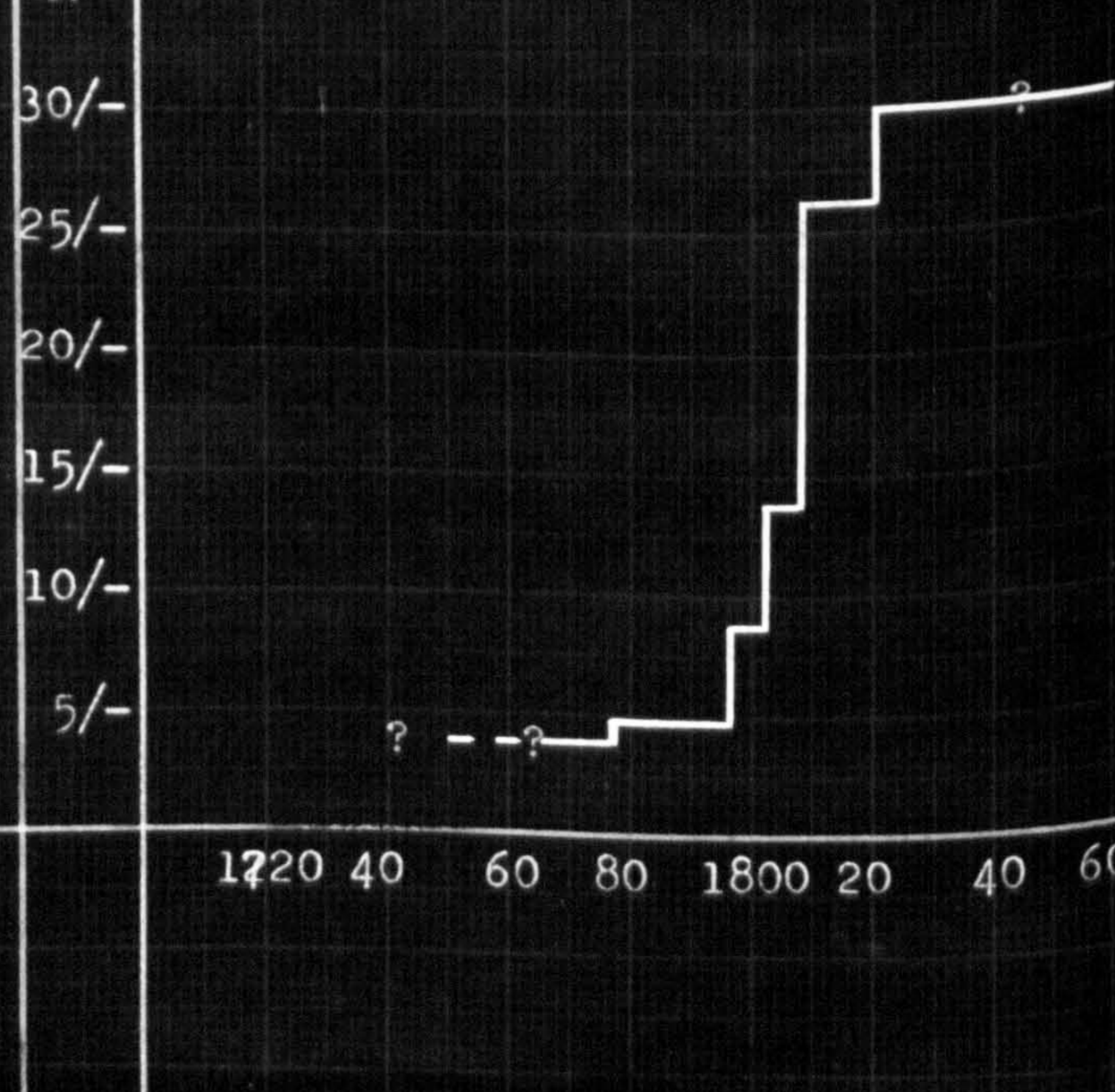
Bamburgh Friars'Farm.
(Pre 1808 c185 acres,
post 1808 c220 acres)
(Tythe Free)



Sunderland Middle West Field.
(60 acres)
(Subject to Tythe)



Fleatham 'Northside'.
(c 270 acres)
(Tythe Free.)



In 1795 the rents rose to the 1779/80 figure in one case and considerably higher in the others, for example at Outchester it rose from 11/6d to 20/6d, and Chesterhill from 13/3d to nearly 19/-. On the Grey farm of Bradford a very small increase brought the rent up to 16/- after 1797, and on the other farm, Burton, no change occurred at all till 1811. It is noteworthy that when the Greenwich farms were valued in connection with another visitation in 1805/6 in every case they were valued at much more than their actual rents, for example Glororum let at 19/- was valued at 32/4d, and Chesterhill on a similar rent at 27/2d. These figures give some indication of the changes in the value of land between 1795 and 1805 and the 'loss' to the landlord who had granted a long lease in the early years of the war. For the Crewe Trustees no such loss had to be endured as the rents were increased at intervals on the basis of valuations.

The graph opposite gives the rents per acre for four farms on this estate, and in every case the 'stepping up' of the rents can be observed in 1796, 1802, 1808 and 1820. A further indication of these changes can be got from the following table in which the rents per acre at various dates are given.

Table 6. 'Rent per acre of several farms in the Bamburgh area belonging to the Crewe Trust Estates' 1795-1810'

Name of Farm	No.of Acres (1)	Rent per acre 1795	1800	1805	1810
Bamburgh Town	240	12/3	16/8	22/9	35/7
Bamburgh Friars'	188	? 14/-	17/6	22/-	27/4
Shoston	437	10/-	16/6	20/-	22/10
Fleatham S.& E.	248	5/-	9/1	14/10	22/-
Fleatham Northside	276	4/10	8/9	13/10	26/2
S'land Middle Westfield	60	8/11	15/8	19/6	24/5
S'land Northfield	66	? 10/3	15/6	18/2	24/3

(1) The figures for the number of acres are taken from the survey of 1807, but in only two cases is that figure substantially different from those of either before or after (Bamburgh Town and Friars'). The query as to the rent of two farms in 1795 arises from an uncertainty as to the exact extent of the holding.

This table, together with the graphs opposite, show clearly that on all the farms on this estate sharp increases took place on every revaluation, with the overall increase being largest on the Fleatham farms where in 1795 the rent had been much lower than on the other farms. In their case, the overall increase was from five-fold to four-fold, while on the other parts of the estate it was rarely more after 1808 than 2½ times the 1795 figure. Large though these increases were they were scarcely comparable with the change that occurred at Burton when it was re-let in 1811.

It will be remembered that on this farm no change had occurred in the rent since 1769, so that by the first decade of the 19th century it was a very cheap farm at 13/- per acre. In 1810 in preparation for the letting Robt.Anderson valued the estate then let at £700 p.a. at no less than £2,320, the equivalent of nearly 43/- per acre. The rent realised was only £20 short of that figure and was the same as 42/7d per acre for the 1,060 acres of farm land. Between 1802 and 1812 an even greater comparative increase had taken place in the tythes paid for corn by the farm to the Crewe Trustees - in 1802/3 it was no more than £5.12. 0 for the whole, while in 1812/13 it was £450, nearly a further 8/6d per acre on the whole. The price rise alone cannot account for a change from 13/- to over 50/- per acre, and it is the tythes that give the clue to the reason. In 1803, 98.7% of the farm was in grass and no corn was recorded as being grown, by 1810 the grassland had been reduced to 56.3% and there were 342 acres of corn being grown (31.9%), and in 1825 the grassland had fallen even lower to 45% of the total. In this case it was clearly a complete alteration in the type of farming which had occurred before the renewal which was responsible for much of this increase, and it seems probable that something of the sort was responsible for the less spectacular changes on other farms.

This hypothesis is supported by the fact that on the Crewe Trust estate the cropping returns of 1794 and 1819 show a marked increase in the quantity of corn being grown. For example at Shoston in 1794, 254 acres were grass, while by 1819 it was no more than 97 acres, and on the Fleatham farms by 1819 there remained only 91 acres of old grass out of a total of 527 acres, though in this case there was a further 116 acres of clover. Almost as important as the actual increase in the arable land was the change in management from a three course rotation to the five course which occurred on nearly all the Crewe farms after 1795, and which seems to have been operated on the Greenwich farms rather earlier. What is certain is that whereas in the late 18th century pasture farming was predominant in this area and wheat was only important as a source of income on a few farms such as Glororum; by the 1820s at latest wheat had become the principal source of income on all the farms, more important than oats, and pasture had become of secondary importance.

It was this dependence on wheat that largely governed the course of rents in the post-war period. As John Grey wrote in his Journal in October 1835:[1]

> 'The crops upon these fine farms have proved very good, but the price of wheat, which is the article they mainly depend on, and which is all shipped to distant markets is only now selling at about 32/- per quarter,is so deplorable that all the tenants declare that they will not be able to continue their farms even at the reduced rents.'

In the period 1815-1820 nearly all the farms' rents increased substantially, largely as a result of the changes that occurred in the case of the Greenwich and one of the Grey farms since the last lease had been entered in 1795/7, and on the Crewe Estate following a further valuation

(1) P.R.O. Adm.80/20. Entry of Oct.19th.

in 1819 which was the first since 1808. On the Greenwich farms, as can be seen from the graph ~~on the~~ opposite page (p.207), the increases were very substantial, approximately doubling till about 40/- per acre was being paid, which was about 10/- more per acre than even the valuation of 1805/6. At Bradford the increase occurred in two stages in 1818 and 1822, but in this case was much smaller and only brought the rent per acre up to 29/-, at which it remained till after 1860. On the other Grey farm and the Greenwich estate, large scale reductions occurred in the 1830s, which on the latter farms brought the rents down to about 30/- per acre. (At Glororum the reduction in 1836/7 only reduced it to 32/- and it was further reduced in 1851 to just under 30/-.) On both these estates abatements were granted of 10% during the depression of the 1830s, but even so a fall in the lease rent occurred in all but one case. Even after these reductions there can be no doubt that Burton in particular was a very dear farm c.1850 as Earl Grey was told by his agent, and that as elsewhere there was severe pressure on rents in the late 1840s which was only alleviated slightly by heavy landlord investment in drainage (£1,700 spent at Bradford 1842-1849 and over £2,250 at Burton) and the granting of further abatements of 15%.

On the Crewe farms after the valuation of 1819 there was no change in the rents for the next 30 years save for abatements granted as a temporary expedient between May-day 1822 and Martinmas 1825 and again from 1834 till 1838 when 10% was allowed off all rents. What is surprising is the degree of variation in the increases that occurred in 1820 when some farms went up by as much as 30% while others rose less than 10%. As a result of these changes the rents per acre were nearly all between 30/-

and 35/- after 1820 with only one being over that figure (Bamburgh Town Farm at 38/3d).

The main point that emerges from this examination of the farms of three distinct estates in the same area is that in the 18th century there was a wide difference between the rents which by the third decade of the 19th had become more uniform. Only in part can the policy of the different landlords be held to have been directly responsible for this, while differences in the mode of husbandry and the relative quantity of arable land played an important role. Certainly the archaic methods used as late as 1766 on the Crewe Trust estate caused the rents there to be lower than on the surrounding farms of other owners; but, as the case of Burton showed clearly, it was often a change in land use that lay behind both alterations in the rent of one farm and differences between several farms. The danger of being tied to long leases in a time of inflation and improvement is clearly shown on those estates where twenty-one year leases were commenced in the late 1790s and the valuation of the same farms in 1805/6 as well as by comparing the stable rents of those holdings with the increases that occurred on the Crewe farms between 1796 and 1808.

The emergence of wheat as the principal source of income as early as 1780 on the Greenwich farms and the apparent severity of the depression of the early 1780s is a foretaste in many ways of conditions after 1815. Although there was an increase in the rent of every farm (save one) between 1815 and 1822 this must be considered a 'catching up' with changes that occurred in the previous twenty or twelve years. During the next thirty years some of this increase was lost but by no means all, or even the major part of it, so that by the 1840s rents were considerably higher

than they had been in the Napoleonic period. On the Greenwich estate there is a very close relationship between the Valuations of 1805/6 and the actual rents being paid after 1836, while on the Crewe farms, of course, the rents of 1820 based on a current valuation remained unchanged. In so far as the price of wheat was much lower in the late 1840s than any period since the 1780s one must either presume that the tenants had increased their productivity to offset this decline,or that their profit margin, having been very high during the war, was reduced to virtually nothing. In 1851 Earl Grey's agent wrote of Burton Farm:

> 'At the present prices of both grain and stock, Burton must be a very dear farm. I have no means of ascertaining a rent charge on 7 years' average in '32,but average price of wheat for three years (then) was 65/7¼d average for the last seven years - 53/-.'

Similarly the tenant of Glororum calculated in 1835 that there was a difference of £300 p.a. between what her farm was producing then and the estimate made by her when she had taken the farm in 1816.(1)

It is difficult to assess exactly the effect of liability to tythe on the rents from farm to farm. It would appear at first sight curious that the very farms on which in the 1820-50 period rents were highest were also those where the burden of tythe was heaviest, while many of those farms where the rents were lowest were tythe free. On the Crewe Trustees' estate some of the farms had either one-fifth or one-sixth deducted from the total valuation for tythe; for the other estates no indication of effect of tythe liability is given in mathematical terms. It would appear that the anomaly of high rent coinciding with tythe can best be explained by the fact that those farms were also those where the relative

(1) P.R.O. Adm.80/20. Journal of John Grey entry for 19th Oct.1835.

quantity of corn grown was highest and that here as elsewhere the incidence of tythe was the result of a series of historical accidents which happen to have produced the curious situation here by chance. Even so, there can be no doubt that but for liability to tythe, the rents of those farms would have been up to 20% higher, and that therefore the apparent similarity of rents conceals a potential divergence which would, for example, have raised the rent at Burton to over 40/- even after 1832.

Two other points of interest are that no difference in the rents paid per acre can be discerned between the small farms of under 100 acres and those much larger units of approximately 500 acres, and that despite the pressure on profits there is no record of any tenant actually failing. The only instance of failure occurred at Fleatham South and East Farms in 1817 and there the cause was speculation as corn merchants rather than farming losses. On the Crewe Trustees' estate there is a quite remarkable continuity of tenants with the same families being tenants in 1766 as were there in 1850 in over 95% of the farms. The other estates, however, show an equally rapid turnover of tenants with at least three families and in most cases four during the same period.

The main conclusion that is reached from this study of rents in North Northumberland is a negative one - that no generalisation can be made concerning the course of rents between 1720 and 1850 which applies to the whole area and which is not banal. The differences in the pattern of rents between the various areas of the Grey estate makes that quite clear, and therefore one must only apply any conclusions drawn from the experiences of one group of farms to other farms which possess a similar geographical location and were cultivated in the same way. Even that extension of

information from the known to the unknown would be dangerous without stringent reservations, as the comparison of those areas where three landlords' farms are in close proximity clearly indicates. For these reasons it would be foolish to attempt to produce an overall rent index for so limited an area, since if produced it would have no value as the possibility of variation from it would be almost infinite.

On the positive side a number of important conclusions can nevertheless be reached despite this. The first and most important is that the role of the type of farming not only on the size of the rent but also on the timing of changes was crucial. In this, of course, the suitability of the land to new techniques as well as the inclination of the tenants played a part. From the evidence of the Grey Estates it is clear that the change from pasture to arable farming and the introduction of new techniques based on turnips was largely responsible for the great increases in rents on the Tweed side farms in the 1790s rather than the inflation of the war. It was during the period under review that the size of the differences between farms cultivated in different ways became reflected in the rents. In the early 18th century rents, even at a low level, were much more uniform than they were by the early 19th century. This can be illustrated over an even shorter period - in 1790 the Tweedside farms of Earl Grey which were 17.5% of the total acreage produced 21.7% of the income, but by 1800 and thereafter their contribution was more than 30% of the total income. In comparing the various groups of farms on that estate the difference between those farms dependent on wheat and those growing oats as their principal grain is clearly shown after 1815 when the downward pressure on the wheat farms is much more severe than on the others.

On the wheat growing farms, particularly those south of Alnwick, despite very heavy landlord investment on tile drains after 1842, the Greys had to accept a fall in rents of some 20% in some cases. In others a very interesting method by which the rent was expressed in terms of wheat and oats and based on the average price of those grains was used, which, while it meant an even greater fall in the early 1850s, held out the possibility of an improvement should prices rise. On the Tweedside farms where oats predominated and where the land was more suitable for extensive turnip cultivation no such decline took place.

The effects of the difference in ownership on farms situated in similar localities has already been noted, but particularly interesting is the 'loss' incurred by the landlords whose farms were taken on long leases in the 1790s, as compared with the estate on which rents were subject to more frequent review and alteration. Perhaps the most striking example of the effect of the landlord on rents is that of the Eslington Estate in the years immediately following its purchase by the Liddells. There the application of the technique of the coal owner brought a remarkable increase in the rents, as a result of which by 1721 they were nearly 80% higher on that estate than on any other for which I have information in this area. This efficiency, even if its results were not fully maintained, contrasts sharply with the almost medieval methods still being employed on the Crewe Trustees' estate over 40 years later.

On the actual course of change in rents in this area the most interesting features are firstly the presence in a number of instances of substantial increases between 1720 and 1750. During the next two decades some further increase occurred universally, being particularly marked on

the Greenwich Hospital farms re-let in 1758 and at Burton on the Grey estate let in 1769. The 1770s saw on those farms that were re-let during the decade very considerable increases which were most pronounced in the Greenwich Farms near Berwick and Bamburgh and on the Grey farms near Berwick and on Tweedside. This rise was followed in the early 1780s by a fall in the rents of the Greenwich farms just mentioned, but in other cases by quite large increases which must be attributed in large part, as those of the 1770s, to improved techniques and changed type of farming rather than to prices.

Thereafter the actual size of any increase is largely governed by the accident of when the lease was renewed, with the important exception of the Tweedside farms where the very great increases in rents were realised before the full impact of inflation had been felt and which mirror the 'revolution' in agriculture that had occurred there since the 1770s. During the war period it is very hard to distinguish between that portion of any rise which must be attributed to the increased price of agricultural products, and that which followed from an increase in the quantity of corn grown and the introduction of more advanced rotations.

In the immediate post-war years there are a number of examples of the rent rising quite sharply which can nearly all be accounted for by taking into account the time that had lapsed since the rent had last been changed. For this reason it was not until the 1830s that any major reduction took place even on the most seriously hit farms - those dependent on wheat. This process of downward moving rents was continued during the 1840s till by 1850-51 this part of Northumberland at least shows every sign of being in the most severe depression.

In this outline the most important single item is almost certainly the size of the increases which occurred in the 40 years prior to the outbreak of the Revolutionary War; which cannot be satisfactorily accounted for by changes in the prices of livestock or grain and must represent a major transition in the history of farming in this area. It was during that period - with the exact timing varying from locality to locality - that those changes were carried out which made Northumberland's agriculture famous in the early 1800s.

Section 4.

Part 2. The Corbridge/Hexham Area. (pages 220-336)

Synopsis:-

The analysis of rents in this area is subdivided into ~~xmixm~~ three districts and each district into hhree periods, before the whole is considered and compared with the North Northumberland Area.

1. General Introduction to the area. (pages 220-224)
2. The Matfen/Stamfordham District (pages 225-274)
   a. Introduction (pp.225-228)
   b. c.1700-1790 (pp.229-238)
   c. 1790-1815 (pp.239-257)
   d. 1815-1850 (pp.258-266)
   e. Summary 1700-1850, in which the rent indices of representative farms are given.(pp 267-274)
3. The Tyne Valley District (pages 275-298)
   a. Introduction (pp.275-6) (N.B. Includes introduction to part44)
   b. 1720-1790 (pp.277-282)
   c. 1790-1815 (pp.283-286)
   d. 1815-1850 (pp 287-292)
   e. Summary 1720-1850 (pp.293-298)
4. The Hexhamshire/Whittonstall District. (pages 299-322)
   a. 1700-1790 (pp.299-304)
   b. 1790-1815 (pp.305-310)
   c. 1815-1850 (pp.311-315)
   d. Summary 1700-1850 (pp.316-322)
5. Conclusions and Comparison with North Northumberland (pp 323-336).

THE HEXHAM/CORBRIDGE AREA.

KEY

Blackett of Matfen Estates

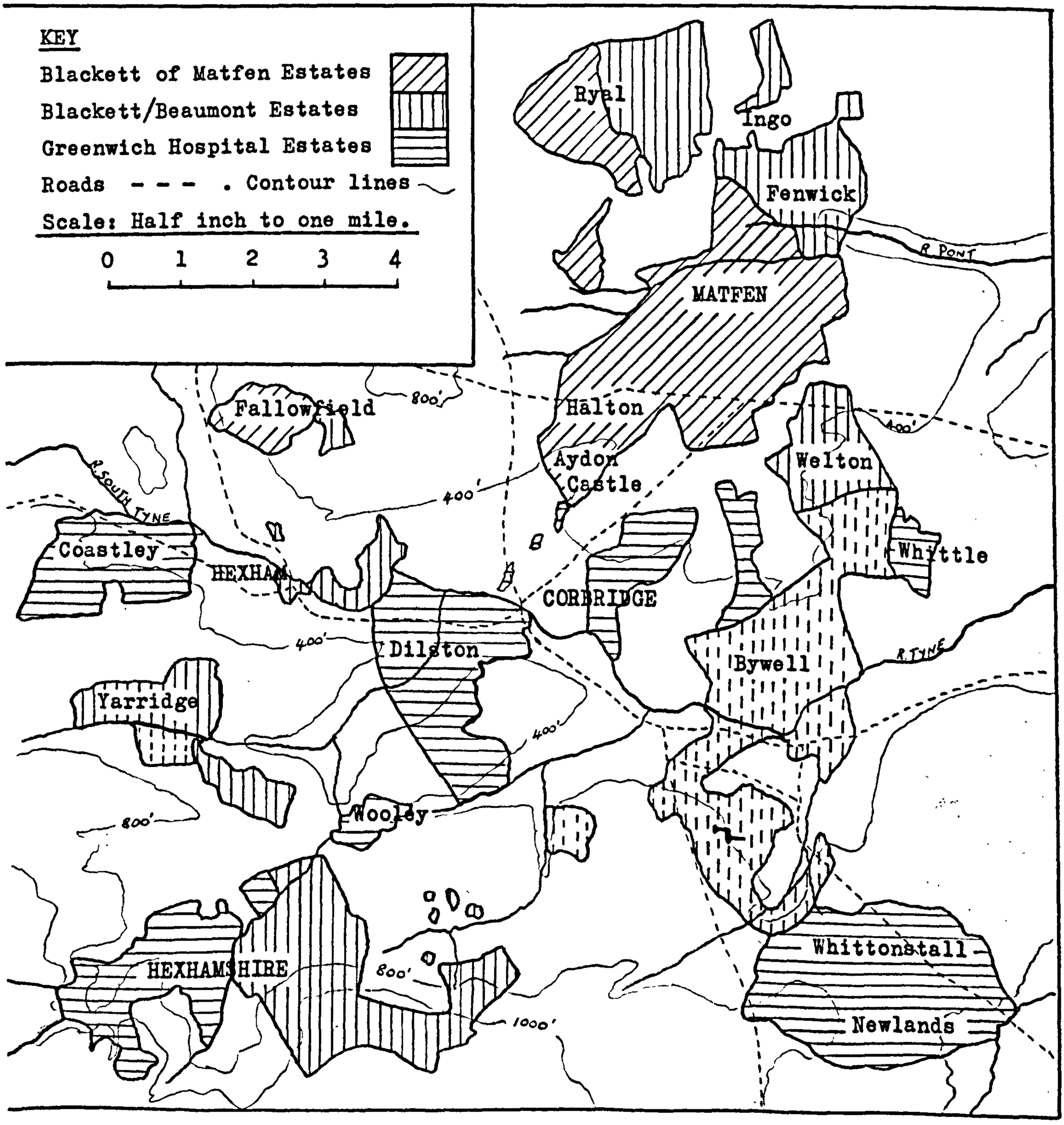
Blackett/Beaumont Estates

Greenwich Hospital Estates

Roads - - - . Contour lines ~

Scale: Half inch to one mile.

0 1 2 3 4



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Section IV. Part 2.

The Corbridge/Hexham Area: Introduction.

The map opposite gives as accurately as the scale allows the boundaries of the several estates that will be examined in detail in the part of the thesis. For each of the districts a separate map on a larger scale will be given, and here it is only necessary to note a few general points. By far the largest of the estates is that belonging to the Blackett/Beaumont family, but it is important to remember that much of it was only bought by them after 1815. For this reason the original properties are ~~coloured green~~ indicated by a continuous line, while the 19th century acquisitions are indicated by a broken line. At its greatest extent this estate totalled nearly 16,000 acres, but it must be remembered that even so it was never the principal source of the family's income nor even the total of the estate.

The next in size is the Greenwich Hospital estate, ~~coloured blue~~, which by circa 1800 contained 8,800 acres. Here again this part of the estate was not by any means the largest compact group of holdings nor a major source of the Hospital's income. In addition to the estates shown on this map two other areas will be mentioned which lay further north in the Wansbeck valley which totalled some 3,500 acres.

The smallest of the estates belonged to the Blacketts of Matfen - ~~coloured red~~ - and consisted of just over 6,600 acres. Here again the family also owned other estates, though in this case these in this area provided the bulk of the family's income. Only in this case (and prior to 1820 the Bywell estate bought by the Beaumonts) was there a consolidated nucleus of holdings centred on the residence of the owner.

Finally, as can be seen from the faint ~~brown~~ lines indicating the contours at 400 ft., 800 ft., and 1,000 ft., the land rises quickly from the river at about 100 ft. on both sides. To the north it forms an undulating plateau drained eventually by the river Pont, to the south on the other hand it rises further till within five miles of the river it reaches the 1,000 ft. mark and open moorland. The climatic and soil quality advantages of the valley farms were occasionally balanced by the flooding of the river and on three occasions at least - 1771, 1782 and 1816 - very extensive and severe damage was done. Further discussion of the geographical factors will be left till we turn to the three districts to be examined in detail.

For the area as a whole the most striking difference between it and that already examined in terms of the structure of the agrarian economy is the smaller size of the farm units. This can be best shown in tabular form in which the number of holdings of various sizes on the three estates in this area are given together with the Grey estate.

Table 1. Size of holdings in the Corbridge/Hexham area c.1800 as compared with the Grey Estate in North Northumberland.

Size (Acres)	Blackett (Matfen)	Beaumont	Greenwich Hospital	Total	Grey
Over 500	2	5	0	7	17
250-500	11	17	11	39	8
100-250	9	15	29	53	3
Under 100	8	18	16	42	1
Totals	30	55	56	141	29

When it is noted that the number of holdings by 1800 was considerably fewer than had been the case even 50 years earlier the difference becomes even more striking. Allied to the smaller units was the calibre of the tenants, often devoid alike of capital and progressive ideas. What is even more

curious is that in many cases the farms on the poorer land were smaller than those near the Tyne. It was of part of the Greenwich Estates on the high ground to the south of the river that John Grey wrote in 1835:

> 'To manage an estate with a tenantry without capital, is like driving a team of tired horses; no point can be obtained however desirable. And I fear the evil is without remedy as no farmer with capital to choose his own locality would be likely to migrate into the districts of Hexhamshire and Whittonstall.' (1)

One remedy would have been to increase the size of the farms by amalgamating a number of small units, another to let a small moorland farm in conjunction with another larger unit down in the valley, but neither remedy seems to have been regularly followed. Rather such consolidation as did take place would appear to be an accidental result of hard times.

Local markets existed at Hexham and Corbridge, and in addition there were the important fairs held annually at Stagshaw Bank three miles due north of Corbridge, but, even so, the whole area lay in the shadow of the great Newcastle markets for which the others often served merely as collecting points. As well as the obvious market for foodstuffs for the mining population, Newcastle was also the centre for a number of other commodities connected with the coal industry. Among the more important of these mention should be made of horses and ponies bred in numbers in this area for eventual sale for haulage either above or below ground, and hay and oats for fodder for these horses. It will be seen later how dependent on this market some of the farms became at a very early stage. As will be recalled, a number of the Lead carriageways passed through this area en route either to Newburn on the north bank or Blaydon on the south, and this provided important non-agricultural sources of income for tenants.

The three districts into which the area will be divided use as approximate boundaries the 400 ft. contour which though arbitrary provides

(1) P.R.O. Adm 80/18 20

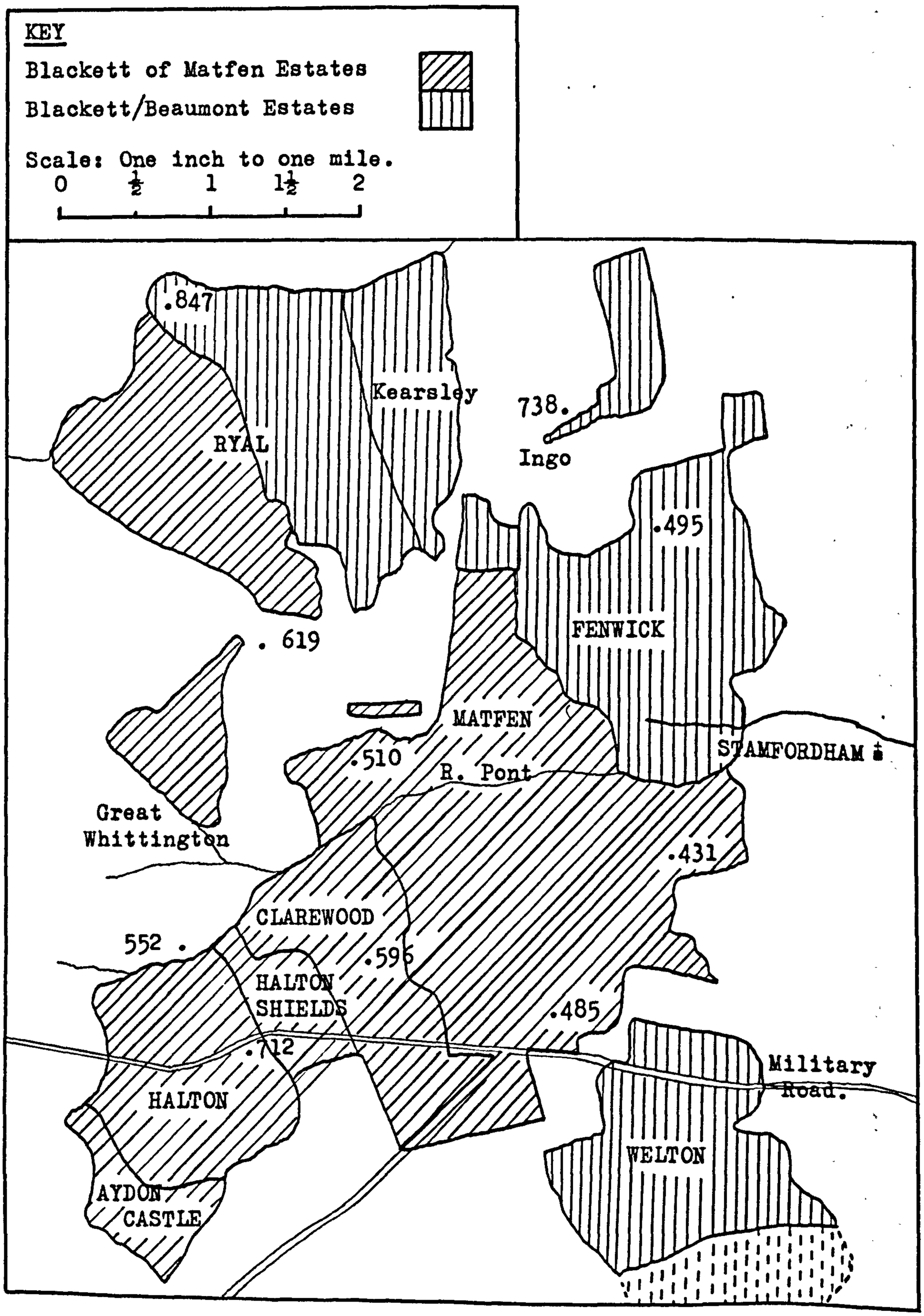
an adequate yet simple line. The method of treatment of the three districts will vary according to the evidence available and the fact that it will be necessary to note certain things in the first district which can be taken as applying to the other two without repetition. The first area, that north of the river and beyond the 400' contour, is the one for which the evidence is fullest: the main reason why it is dealt with first.

In examining each district I will divide the period into three parts. The first covers the period down to 1790, the second the war years from 1790 to 1815 and the last the post war period from 1815 till 1850. To summarize the results of this detailed examination I will take the rental histories of a number of representative farms in each district over the whole period. The rents per acre of these representatives will be converted for comparative purposes into a series of indices.

Finally to illustrate these histories I shall give a graph of the rents per acre over the whole period. In the ~~appendix~~ North Northumbrian analyses simple graphs in which the vertical and horizontal axes are both the same ~~are~~ here included, but such graphs suffer from the drawback that they tend to misrepresent the magnitude of changes between high rents per acre and low ones. This can easily be explained thus:- The vertical interval between the point representing 2/6d per acre and 5/- is 5 mm., and the same is true of the interval between 10/- and 12/6d per acre. The former represents an increase of 100% while the latter's is only 25%. It is to correct this that ~~in the text~~ the graphs used will be on a simple arithmetical horizontal axis with 1 cm. for twenty years, but the vertical axis (shillings per acre) used a logarithmic scale. By this means an identical

interval occurs between figures bearing the same proportional relationship. In simple terms the interval between 2/6d and 5/- per acre is the same as that between 10/- and £1, or 6d and 1/-. Because in the text I shall be more concerned with the size of changes than the actual rents being paid per acre these logarithmic scale graphs will be the ones used as illustrations. ~~in the text, while the others will be in the appendix for comparative purposes.~~

THE MATFEN/STAMFORDHAM DISTRICT.



facing p

The Matfen/Stamfordham District

The main points concerned with the physical geography of the district covered by the map opposite are indicated by the major streams and selected spot-heights given. Loosely there is almost radial drainage, with streams in the south flowing south to join the Tyne within three miles, those in the west flowing westward to join the North Tyne while the remainder is drained by the two principal tributaries of the River Blyth - the Coalburn in the north and the Pont in the middle of the area. This pattern is not, however, coupled with any well defined central dome of high ground, but rather with the accident of a number of ill-defined ridges and isolated higher hills.

The result of this can be seen in the place names of two of the settlements - Fenwick and Matfen - for in this district the principal factor controlling land use is drainage. In much of the central area it can only be described as chronically bad, though now much improved by artificial methods. As will be seen later, attempts to improve the position during the 18th and early 19th century had a profound effect on the history of the various farms concerned.

Where the natural drainage was satisfactory the comparatively low rainfall - average between 27.5 and 30 inches per year - coupled with naturally fertile soil permitted arable farming up to the limits imposed by elevation. Oats at least seem to have been worth growing well over the 600 ft. contour and in some instances were regularly grown at nearly 700 ft. There was, however, very considerable variation in the soil fertility and this together with important topographical features of a highly localized type - slope, aspect, frost proneness, etc. - results in a wide

range of land qualities within the district.

Turning from the physical to the human geography it is noteworthy that all the places mentioned by name were in medieval times at least distinct hamlets or townships, while Matfen itself was divided into the two separate townships of East and West Matfen. The survival of some of these, while others decayed or had their economy so changed as to lose their true village identity, is of interest but cannot be examined in detail here.

What is very interesting is that here, as on the Grey estate, much of the landownership is based on whole or half townships. Of those illustrated only Matfen, Great Whittington, Stamfordham and Ingo were by 1750 owned by more than two families. This is certainly an area from which the owner-occupier or yeoman is conspicuously absent, as a cursory examination of the holdings of other large landowners revealed. To the north, the Dukes of Northumberland held most of Ingo; in the east the Middletons of Belsay and the Bigges of Stamfordham owned extensive properties, and so forth.

On page 26 in the section on the estates and their records, I have outlined the complex relationship between the two branches of the Blackett family, so that here it is only necessary to give a brief account of the estates starting with those of the Wallington line which passed eventually to the Beaumonts.

All their estates in this area with the exception of one moiety of Kearsley were part of the original Fenwick family estate purchased by Sir William Blackett in 1694. The other moiety of Kearsley was added by Sir Walter (Calverley) Blackett circa 1750. The bulk of the Wallington

lands lay to the north and west nearer Wallington itself, but those in this area instead of passing in 1777 to the Trevelyans remained with the 'Hexhamshire' estates and the lead interests.

During the first half of the 19th century the Beaumonts sold all of these estates save Welton, which by then lay adjacent to their newly acquired lands at Nafferton and thence Bywell. Ingo was sold in 1852 to the Dukes of Northumberland, but the others excepting Fenwick went to the tenants currently occupying the land. Fenwick was bought in 1833 by the other branch of the Blackett family whose holdings in the district were already very considerable.

The Blackett of Matfen estate resulted from the marriage of the heiress of the Douglas family with the heir of the baronetcy, in 1752/3. Aydon Castle, Halton, Halton Shields, Clarewood and the majority of the farms in East Matfen belonged to the Douglas family who had bought them in turn from the Carnabies during the 1680s and 1690s. Great Whittington and the East Matfen farms, though also originally part of the Carnaby lands, had been bought by Sir Edward Blackett at the same time. The Ryal estate only came into the Blacketts' hands by purchase in 1802.

In addition to the farms and estates shown on this map, mention will be made of two other farms and one other estate. The two farms lay some six miles to the west of Matfen, though similarly situated in point of elevation and soil. Of these one - Fallowfield - had been the property of the first Sir Wm.Blackett and passed after his death to his eldest son (Blacketts of Matfen). Though a large farm of over 550 acres, its importance lay in the fact that it lay over some of the richest lead veins found north of the Tyne. The other farm was adjacent to this, but belonged to

the other branch of the family. Codlaw Dean was nearly 200 acres in extent and the result of the enclosure of Wall Fell and Acomb Fell circa 1760 when it was given as the Lord of the Manor's sixteenth part for his rights and consent to the division.

The Meldon and Hartburn Grange estate of Greenwich Hospital lay in the valley of the Wansbeck about nine miles north of Stanfordham. Though separated from this main centre of the district it does bear a close similarity in geographical features and provides occasionally very fruitful comparisons. Because of the distance from the rest of the district, however, I will not include it save for comparative purposes as suitable and not examine it in detail.

With this introduction we may now turn to the detailed study of the district, in which, as suggested above, the period will be divided into three parts - 1700-1790, 1790-1815 and 1815-1850. After that, a number of farms will be taken as examples and their rental histories traced over the whole period for which the evidence is available.

The Matfen/Stamfordham District c.1700-1790

Among the records at Bywell Estate Office are the rentals for the whole of the Wallington estates for the period of Sir Walter Blackett 1728-1777. Unfortunately they contain no reference to the size of the holdings for which the rents were being paid. In so far as many of the holdings at this time were whole townships it is possible in those cases to make a reasonable suggestion as to what the rent per acre might have been; where this is not the case no such calculation can be safely made.

Despite this weakness it can be seen that during the 1730s there was a fall of up to 20% on the rent of most of the farms, though in one or two instances slight increases took place. During the next decade this decline was halted and an increase became general, so that by 1750 the rents of every farm were at least as much as they had been in 1730. Up till that date the policy seems to have been to grant leases for seven or nine years and never longer. During the '50s this was changed and one can see the introduction in that decade of 21-year leases on most of the farms. For the period from 1750 to c.1765 there is some confusing evidence. On the one hand, rents increased substantially by between 20% and 30%, there was no shortage of offers for vacant farms and yet the letter books of the agent speak of increasing arrears and bad receipts at the rent days.

May 16th. 1755
'The prices of corn and butter here (Newcastle) are greatly fallen, and the tenants begin to make heavy complaints.'

May 11th 1756
'The 26th of last month was rent day at Wallington, when I never knew so poor a receipt. (The writer had been receiving rents there since at least 1728).

Nov.24th 1761
'The Wallington tenants paid last week as well as could be expected from the badness of the harvest and fairs and yet there remains more than £2,000 due from them for arrears. Most of them disclosed that they have little prospect of paying you, and many want to be released from their farms.'

May 23rd 1762
'I had the worst receipt of rents at Wallington that I remember in May.'

May 11th 1764
'I was at Wallington receiving your rents, but the tenants have run still more into arrear.'

Unfortunately the agent never mentioned good harvests or full receipts, but it is surprising in the face of this evidence there should be very few failures among the tenants and a considerable increase in the rent at almost every new letting. It may well be that the greater security offered by the longer lease may have enabled the landlord to secure a larger proportion of the gross income of the farm at least for the first few years. The absence of fuller evidence makes any further suggestion risky, but this table shows what happened to the rents of five of the farms in this district on this estate from 1730 to 1770.

Table 2. Blackett/Beaumont 'Wallington' Rents of selected farms 1730-1770

Name of Farm	1730	1740	1750	1760	1770	Date of first long lease
Welton	£350	£300	£340	£450	£450	1756
Ingo	100	84	105	140	160	1757
Kearsley	50	62	61	70	70	No long lease granted.
Ryal North	130	124	130	210	160	1758(failed 1760)
Ryal South	130	120	120	130	135	1764

For the first three of these it is possible to convert these totals into per acre figures.

Table 3. Blackett/Beaumont 'Wallington' Rent per acre 1730-1770

Name of Farm	Size	1728	1730	1740	1750	1760	1770
Kearsley 'A'	260 acres	2/3	3/8	4/6	4/6	5/3	5/3
Kearsley 'B'	260 "				4/6	5/3	5/3
Ingo	c.480 "	4/8	3/10	4/-	5/-	6/6	6/6
Welton (1)	c.1,000 "	7/2	7/2	6/-	6/9	7/9	7/9

(1) Division of Shildon Common in 1756, 153 acres allotted to Welton.

Before commenting on these figures it will be as well to examine the Matfen farms during this period, even though it is only for a few of them that the records are sufficiently precise. The most interesting thing on this estate is the way in which the number of holdings is drastically reduced, for example at Halton Shields prior to 1727 there were five distinct farms while after that year their number was reduced to the two which were to remain throughout the next 150 years. It was as a result of this that at Aydon Castle, Halton, Clarewood, and Halton Shields there came into being a number of rather large units of over 250 acres. The process on the surface was simple; in the early 1720s the rents were raised substantially and when some of the tenants got into difficulties during the less prosperous '30s their more fortunate fellows were only too willing to fall in with the landlord's suggestion of amalgamation.

On the Matfen estates no long leases were granted during this period and there was not so marked a decline during the 1730s as was observed elsewhere. Part of the reason may be in the consolidation into larger holdings, but, as this table will show, the rents per acre on this estate were at least comparable at the beginning of the period.

Table 4. Blackett (Matfen) Rents per acre 1720-1770

Farm(s)	1720	1730	1740	1750	1760	1770
Aydon Castle	5/11	7/4	7/4	?7/6	7/8	9/2(New lease 1770)
Clarewood East	3/10	4/9	4/9	?7/9	10/2	10/2
Clarewood West					8/4	8/4
Halton South	7/10	7/10	10/2	?10/6	12/3	12/3
Halton Shields E.	4/10	5/10	5/10	7/6	11/-	9/6
Halton Shields W.						12/1
Whittington	4/9	6/7	6/7	6/10	7/11	8/-

That rents should have increased by these amounts is significant, since nothing apparently in the price of agricultural products had occurred

between 1720 and 1770 which could account for increasing by over 100%. Even the two common enclosures (Matfen in 1752 and Shildon 1756) had only marginal effects on these farms. By chance the survival of some early maps of the area suggest that the period also saw the total reorganization of the land into its modern field patterns, but even this may not be sufficient explanation. The building of the military road after 1745 provided an important stimulus by improving the route to Newcastle. In attempting to decide which of the two estates should be taken as the 'norm' the evidence for them is insufficient, but a comparison with the Greenwich estate at Meldon shows that it at least behaved in a similar manner to the Blackett of Matfen lands.

At Hartburn Grange in 1716 the rent was £170 for three holdings on the 1,000 acres; by 1735 the figure was only £180 but we do not have the information to determine what had happened between those dates. In 1737 a 21-year lease was granted for the whole at £220, equivalent to about 4/- per acre. This increase was accompanied by an extensive building programme estimated to cost some £400. The details of this were as follows:-(1)

A dwelling house	30' x 15' x 13½' with one floor
2 dwelling houses	24' x 16' x 13½' with each one floor
2 stables	22' x 16' x 9'
3 barns	27' x 15' x 12'
2 cottages	20' x 16' x 9' each

Repairing 2 byers, a stable and a cottage.

At the next letting the rent per acre rose to nearly 7/-, though by then the estate was split into three holdings. Again there was heavy investment in buildings, with a complete set erected at a cost of £275 exclusive of leading of the materials. This set was identical with that erected at the

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(1) P.R.O. Adm. 66/106, p.94. Estimate submitted by receivers 1737.

same date at Chesterhill Farm near Bamburgh, details of which were given on page 206 of that section. On these farms, therefore, the period 1710-1770 saw a doubling of the rent as at Matfen, but here it can be seen to have been connected with heavy investment.

As far as one can judge from the published records of some of the Roman Catholic landowners in the same area, such an increase was by no means uncommon and in fact it would appear that not only were the rents per acre on the 'Wallington' farms rather below those on their neighbours, but also the increases were far less pronounced on many of them.

From 1770 to 1790 the records for the Blackett of Matfen estates become very full with ledgers giving details of investment, a cropping book in which the crop of every field each year from 1775 is recorded, and some 250 letters from the agent George Bates to his master. For the Blackett/Beaumont estates no such fullness is present, rarely is there more than the bald figures of the rent.

From the Matfen records there can be no doubt that the 1770s were a period of considerable prosperity. Additional land was brought under the plough and livestock prices tended to rise both for store and fat animals. Under these conditions rents rose from 15% to 30% depending on the date of the previous letting, the timing of the renewal and the length of the new lease. Throughout the estate the customary three course rotation of wheat (or barley), oats and fallow was strictly followed and there is no mention of turnip cultivation. Landlord investment, save at Matfen itself where prestige and estate amenity building was considerable, remained more or less constant at about 5% of gross rent income, only rising when a new lease was granted. It is during this period that the first mention is

made of major improvement works on the River Pont to remedy flood damage and ill-drainage.

This prosperity came to an abrupt halt after 1778. The corn tythes of Stamfordham parish fell from £641 in 1778 to £554 in 1780 and livestock prices appear to have fallen even more drastically. On top of this came further climatic misfortunes which continued for some years, as the following extracts from Bates' letters suggest.

June 15th 1781.

'We have had a great fall of rain in this neighbourhood which has made plenty of grass in pastures and meadows.... but the corn is very much laid, ... the fallow ground in some places are so wet that it seems fit for brickmaking.'

May 24th 1783.

'We have had very cold dry weather and a frost every night for some time, yesterday some snow, last night a cold north-east wind and a very hard frost. Rain and warm are much needed, there is very little grass and the corn begins to look yellow.'

This depression already noticed in the farms near Bamburgh resulted in the rents of some of the farms let in 1777 and 1778 being reduced to the level of about 1770. Some of the land ploughed up during the early 70s was returned to grass, particularly after about 1784/5, though there was as yet no change in the rotation pattern. Landlord investment, while remaining low in general, was noticeably higher following those few renewals where the rent increased.

After 1786 Sir Edward Blackett spent much of his time at Matfen, so that correspondence is only slight till about 1793/4, but it would appear that the second half of the decade was one in which any arrears contracted earlier were paid off, and on renewal of any lease no difficulty was experienced in at least maintaining the existing rent and often there was a slight rise. This was accompanied by considerable reductions in the

arable land, for example at Halton South Farm it was reduced from 122 acres (25.7% of the farm) in 1785 to 75 acres (15.7%) by 1790. The Stamfordham tythe records support the idea that the prosperity of these years was centred primarily on livestock husbandry rather than grain, and certainly cattle prices rose appreciably.

For the other estates as far as one can judge from the less full evidence a similar story can be told. In February 1780 J.E.Blackett, chief agent to Sir Thomas (Wentworth) Blackett, wrote that the tenants were at that time very backward with their rents, 'But your's are, I think, more so than your neighbours'. By that date control over the estates had been passed to a new sub-agent (Mr.John Bell of Hexham) whose activities have only survived in the form of a series of six-monthly accounts.

On the Greenwich estates in 1779 there was a general and considerable increase which the tenants had great difficulty in paying during the first few years of their new leases. Most of the agreements, however, for 21 years were terminated in 1788 and a new one entered. At this letting some of the farms showed a decline from the figure agreed for 1779, but even this was far from universal. From the general pattern, one farm stands out - Hartburn Grange West Farm. This had been let from 1758 at 4/10½ per acre and by 1790 the rent had only risen to 5/1, an increase of 4%. It may well be significant that in 1779 some 50 acres of this farm's best land was laid to its neighbour. This meant that it could only survive as a sheep farm for which purpose its wetness and consequent tendency to the rot made it unsuitable. In 1805 the farm was described as 'all of poor quality and left last year in a wretched state of cultivation'.

For comparative purposes I give the rents per acre for a selected number of farms on all three estates from 1770 to 1790 in one table. In each case the dearest farm selected for each estate is given first (based on the 1770 rent), but it will be seen that the percentage increase 1770/1790 does not seem to bear any close relation to the actual rent paid in 1770. Neither do the differences in landlord policies seem to have had much effect.

Table 5. Matfen/Stamfordham District. Rent per acre 1770-1790.

Name of Farm	Estate	1770	1780	1785	1790	% increase 1770-1790
Fenwick Shield	Wallington	9/5	13/3	13/3	13/3	39%
Ryal South	Wallington	8/8	12/4	12/4	12/4	41%
Ingo	Wallington	5/9	8/11	7/6	7/6	30%
Kearsley	Wallington	5/3	6/9	6/9	7/6	33%
Meldon Park South	Greenwich	13/0½	17/3	17/3	19/-	46%
Needless Hall	Greenwich	5/8	12/11½	12/11½	11/3	35%
Needless Hall Moor	Greenwich		6/1	6/1	6/1	(jointly)
Hartburn Grange W.	Greenwich	4/10½	6/10	5/1	5/1	4%
East Matfen Mill	Matfen	13/11	16/6	16/6	16/6	19%
West Matfen Lowhall	Matfen	12/7	14/3	15/-	15/-	20%
Halton South	Matfen	12/3	16/1	15/4	15/4	25%
East Matfen West Farm	Matfen	8/9	11/5	11/5	11/5	30%

The fact that the increase during this period was rather smaller on the Matfen estates than elsewhere is largely accounted for by the fact that the shorter leases operating there meant that the rent circa 1770 was the result of rather more recent advances than was the case on either the Greenwich or the Wallington estates.

In conclusion we can now summarize the history of the first period in this district. Evidence prior to about 1730 is scanty but what there is suggests strongly that considerable increases had taken place during the 1720s which had imposed great strains on the less efficient tenants and the smaller units. During the 1730s the strains became greater, with the

result that on many farms a fall in the rent took place while elsewhere the failure of tenants paved the way for bigger farms tenanted by the more prosperous and fortunate of the earlier tenants.

The period from 1740 onward is one of continuing rising rents interrupted only at two points. The late 1750s and early '60s was apparently one when many tenants were in such difficulties as to fall into arrears, and such increases as did occur on re-letting were either the result of granting longer leases or of the previous letting having been during the depressed 1730s. The period from 1778 to the mid-1780s was again one of depression in this district as in North Northumberland, with both grain and livestock prices lower than during the previous decade. This depression was accompanied by heavy arrears and occasional declines in rents, though here again where long leases had been the practice considerable advances could be recorded even during the depression. On this, it is important to remember that the leases for the Greenwich farms entered at Mayday 1779 were based on tenders put in during the previous year prior to the fall in prices.

The last four or five years up to 1790 witnessed a recovery coupled at least on many of the Matfen farms with a reduction in the arable land. There is some evidence to suggest that it was based predominantly on livestock rather than grain husbandry, but it is by no means conclusive.

In terms of rents per acre the net result of these various changes can be gauged from three examples. In 1728 the rent of Kearsley was 2/3d per acre; by 1740 it had risen, exceptionally, to 4/6d. After 1757 there was a slight rise to 5/3d, followed by further increases in 1772 (to 6/9d) and 1787 to 7/6d. Meldon Park was throughout a much dearer farm even as

early as 1716, being let for 7/6d per acre. Re-letting occurred on four occasions, 1737, 1758, 1779 and 1788, and on each of them increases took place;in 1737 the rise was from 8/5d to 8/10d, in 1758 from the latter figure to 13/0½d, and in 1779 it reached 17/3d. At 19/- by 1790 it was by far the highest rented farm in the district. Clarewood East farm only assumed its final form in 1758, but even before that date it is possible to suggest the rent per acre with reasonable certainty. Here the rent in 1717 was about 4/- per acre which by 1730 had risen to 4/9d, and within the next twenty years reached nearly 8/-. The major increase occurred in 1758 when the boundary was fixed and it then rose to 10/2d, at which figure it would appear to have been a 'dear' farm since it only rose in 1772 slightly to 11/10d.

In all these cases the rent by 1790 was well over twice the figure for about 1720-1730, and at Kearsley over three times as much. It is the magnitude of this increase that is so unexpected, since there is little to warrant it in the available material for price changes for agricultural produce. Longer leases and heavy landlord investment may account for idiosyncracies of timing, but they would not be sufficient cause for the whole. The reason would seem to lie in increased productivity, even before the introduction of improved rotations or turnips, and the greater efficiency of the landlord (or his agent) in getting a larger portion of the gross income as rent. Though overshadowed by the spectacular increases during the wars which followed, the significance of these increases, if general, is too great to need emphasis.

The Matfen/Stamfordham District 1790-1815.

The striking increase in prices and rents during this period are well enough known. It is easy, for example, to give figures for the fines received by the Bishop of Durham for the renewal of the lease of Stamfordham Corn tythes: 1792, £700; 1799, £796; 1806, £973; and 1813, £1,592. To assess what caused this in detail is much harder. How much came from rising prices, how much from greater yields or more acres? These questions can only rarely be answered. The historians' task is made no easier by the fact that the corn laws became the subject of violent political debate in which many of the other factors connected with increased rents were pushed into the background.

The first task is to destroy the myth of uninterrupted prosperity during the war, which a too simple correlation of high prices and rising rents created. The very full correspondence of George Bates cannot be read without coming to the conclusion that there were many serious interruptions. Bank failures in 1793 and 1815, rising labour costs, defective harvest yields, rot among sheep, a disastrous fall in fat cattle and sheep prices in 1811, these are only a few of the difficulties mentioned in this correspondence.(W) Only an old man could have written in September 1815 this letter:

Sept.29th 1815.

> 'We have now unfavourable weather for the harvest, ... New wheat was sold last week in Newcastle market at 12/6d the boll, and it is reported that new wheat was sold in Darlington market on Monday at 5/- the Winchester bushel. These prices may bring corn to an exporting price.'

A second assumption too readily made is that ploughing out of grassland was universal and the cause of increased rents, at least in part.

(W) In the Appendix to this Section a selection of extracts from Bates's letters are given. (W.)

The presence for the Matfen estates of the detailed cropping books means that this theory can be checked in detail. No one can deny that great increases took place in both grain prices and rents, but one should perhaps hesitate before drawing the conclusion that these two either produced or were evidence for a highly prosperous tenantry.

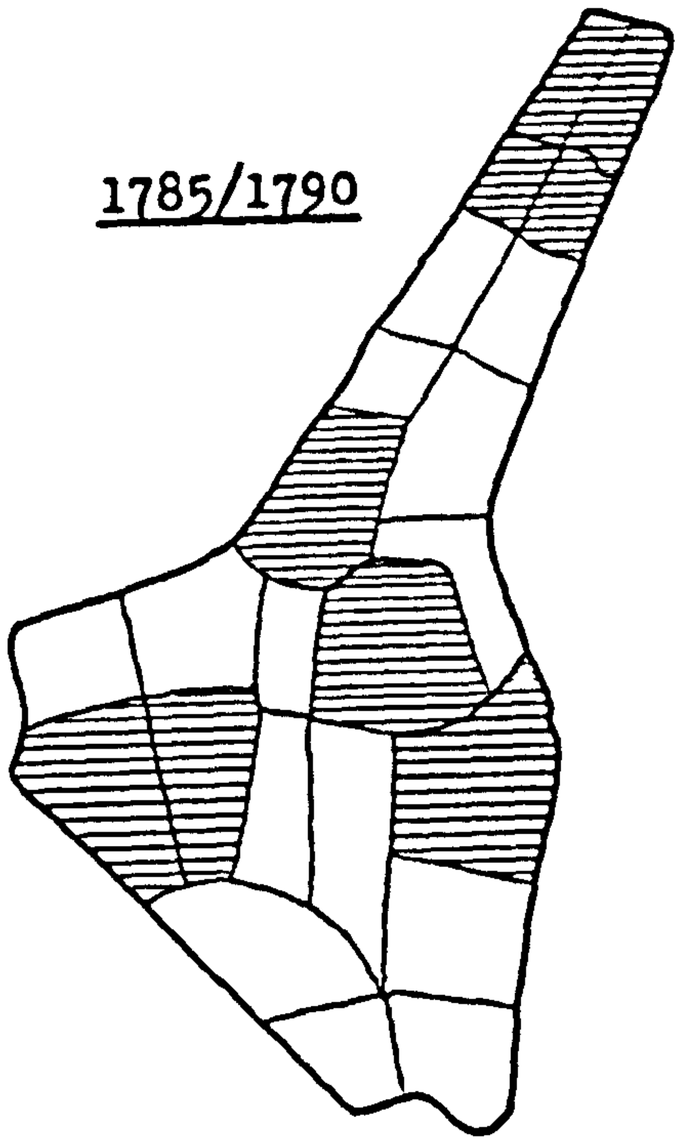
It is only when the evidence is very full - as at Matfen - that a study of the period can be undertaken in the sort of detail needed to arrive at a clear understanding of the process involved. At first sight the overall increases on this estate between 1790 and 1815 vary so much that any conclusions would seem rash. From nearly 300% increases down to less than 30% is too wide a gap for realistic comparison unless there is available very detailed information as to the probable causes.

The first factor to be examined is the effect of timing, since during a period of continuous inflation one would expect the increases to be greater the longer the gap between lettings. As the number of farms involved in re-letting in any one year never exceeded six, the sample is perhaps insufficient, but it may well be significant. Four renewals in 1794 all showed an increase of about 10%, while three the following year increased by between 20% and 30%. In 1800-1 eight leases were renewed, five of which showed an increase of above 90%, two of about 45%, and the last only 28½%. Half of these last leases were for 12 years and when they were renewed in 1812 all of them increased by about 33% irrespective of differences present in 1800. This small increase contrasts with the changes between 1808 and 1811 on those previously let during the 1790s where the increases ranged from 82% to 220%.

Blackett of Matfen.

Cropping: Great Whittington farm. (290 acres)

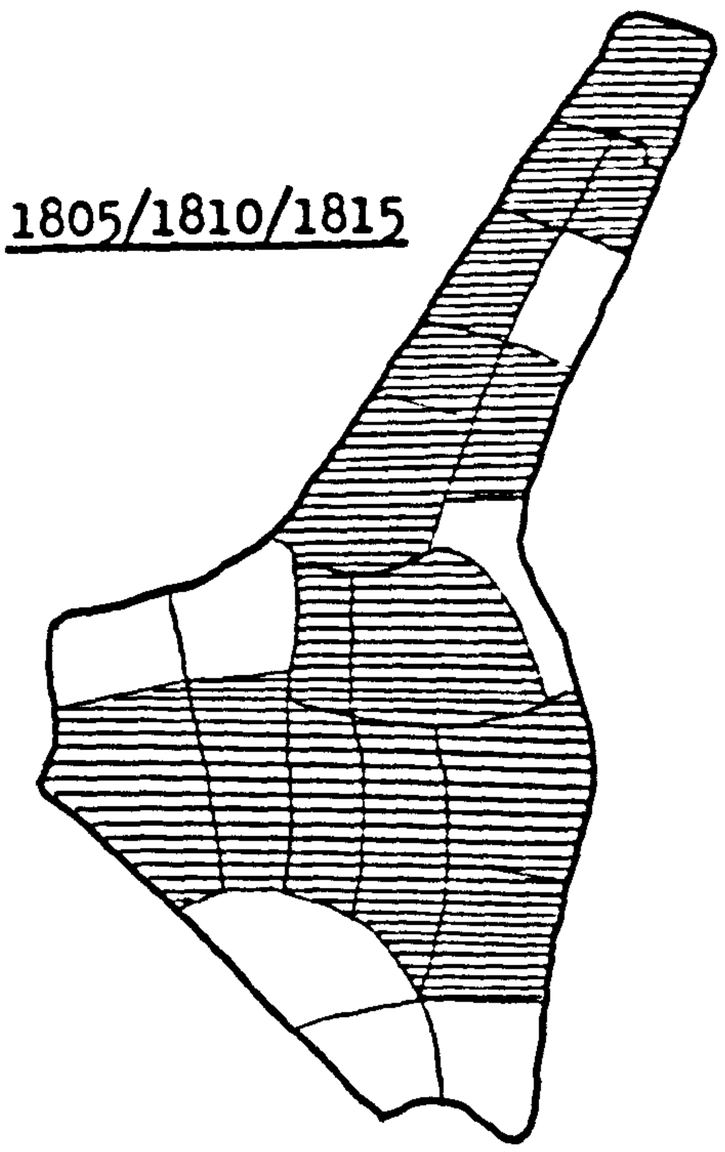
1785/1790



Crops in 1785.

Wheat	22 acres
Barley	nil
Oats	60¼ acres
Total Corn	82½ acres
Fallow	47 acres
Total tillage	129½ acres

1805/1810/1815



Crops in 1805.

Wheat	nil
Barley	29½ acres
Oats	47 acres
Maslin	16 acres
Total Corn	92½ acres
Fallow	43½ acres
1st yr clover	35 acres
2nd yr clover	50 acres
Total tillage	221 acres

Scale: 1:25,000; approx. 2½ inches to 1 mile.

At this stage no conclusions can be drawn from these figures since we have not explored the reasons for the divergences in increases even in the same year.

Table 6 gives the rent changes for a number of farms on this estate during the period, noting the dates at which renewal took place and the size of the increases in each case expressed as a percentage of the previous rent.

Table 6. Blackett (Matfen) Rent changes 1790-1815.

Name of Farm	Rent 1790	First renewal			Second renewal			Overall Increase
		Date	Rent	% up	Date	Rent	% up	
Clarewood W.& S.	£200	1794	£220	10%	1809	£655	198%	227%
Dewlaw	72	1794	80	11%	1810	143	79%	99%
Halton Shields E.	100	1795	120	20%	1810	385	221%	285%
Halton Shields W.	150	1795	200	33%	(a)1810	355	130%	213%
					(b)1810	115	150%	
Whittington	140	1800	180	28½%	(1817	200	11%)	(43)28½%
Halton S.& W.	482	1800	750	56%	(1821	1,000	33%)	(107)56%
Halton North.	125	1800	241	93%	1812	330	37%	168%
Matfen Lowhall	200	1800	375	88%	1812	500	33%	150%
Thornham Hill	80	1800	116	45%	1812	150	29%	87%
Clipperheadland	60	1800	88	47%	1812	120	36%	100%
Clarewood East	150	1803	332	121%	1814	420	27%	180%
Standingstone	230	1803	373	64%	(1816	400	7½%)	72%

Let us now examine in turn the individual farms given in this table to determine why their rents behaved as they did.

The maps opposite show the changes in tillage land on Great Whittington Farm. and at first glance the increase was considerable, from 130 acres in 1790 to some 220 by 1805. Closer inspection of the cropping book reveals that this is not caused by any increase in the number of acres growing corn but by the change from a three to a five course rotation. This started with a clover crop in 1790 following the wheat and barley crops of the previous year, and by 1795 the new rotation was fully adopted. The number of acres devoted to corn did not increase, having been 88 acres in 1790, and it

never rose above the 93 acres of 1805. The temptation to assign to this absence of more acres of corn the small rent increase must, however, be resisted. Far more important was the fact that for re-letting in 1800 this farm was not advertized (as were the others), but an agreement made with the sitting tenant. Surprisingly the agreed rent was below the valuation put on the farm by Bates in 1796, but the correspondence gives no clue as to the reasons for this. It would seem, however, that it was this rather than the absence of increased corn growing that accounts for the small increase.

In November 1799 George Bates was upset by his son Thomas's decision to offer for Halton farms. The south farm had been tenanted by George Bates's brother (Thomas) since 1779, and it was here that in 1785 the first clover crop was grown on the estate.(1) . By the time George Bates heard of his son's application he had already received eight proposals for the South farm and eleven for the West farm. The previous rent of the South farm was £350 and the highest bid was £600, while for the West farm then rented at £130 the highest bid was £370.

5th November 1799.

'I am very sorry that my son has made an application. I think it too great an undertaking for him, though his aunt Moore is to assist with money.... It will be using the people who have given in proposals not well and will deter others from giving in proposals hereafter for any farms that your Honour has to let while I am concerned. Therefore I hope that his proposal will not be accepted.'

28th November 1799.

'I <u>am</u> sorry that my son Thomas has written to Mr.Blackett (later Sir Wm.) for leave to give in a proposal for Halton farms. I think it too great an undertaking, and against my ideas that a person or family should be both letter and taker of farms. He has been very successful with the farm he has, and has made great improvement of

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(1) It may well not have been a coincidence that a year earlier Thos.Bates's daughter had married the famous agriculturalist Mathew Culley, a life-long advocate of clover.

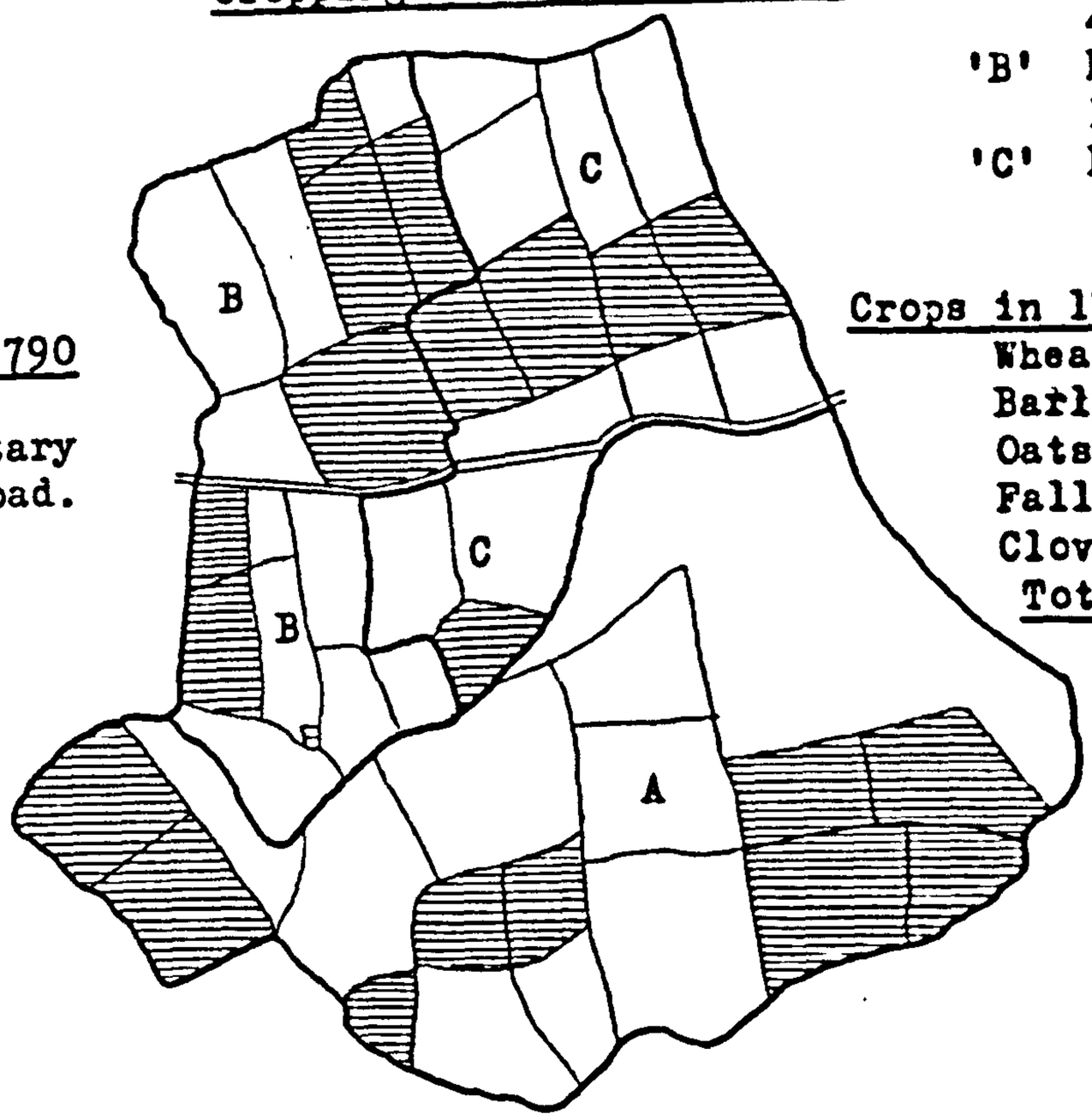
Blackett of Matfen.

Cropping: Halton Township.

'A' Halton South farm 458 acres.
'B' Halton N.West farm 190 acres.
'C' Halton N.East farm 192 acres.

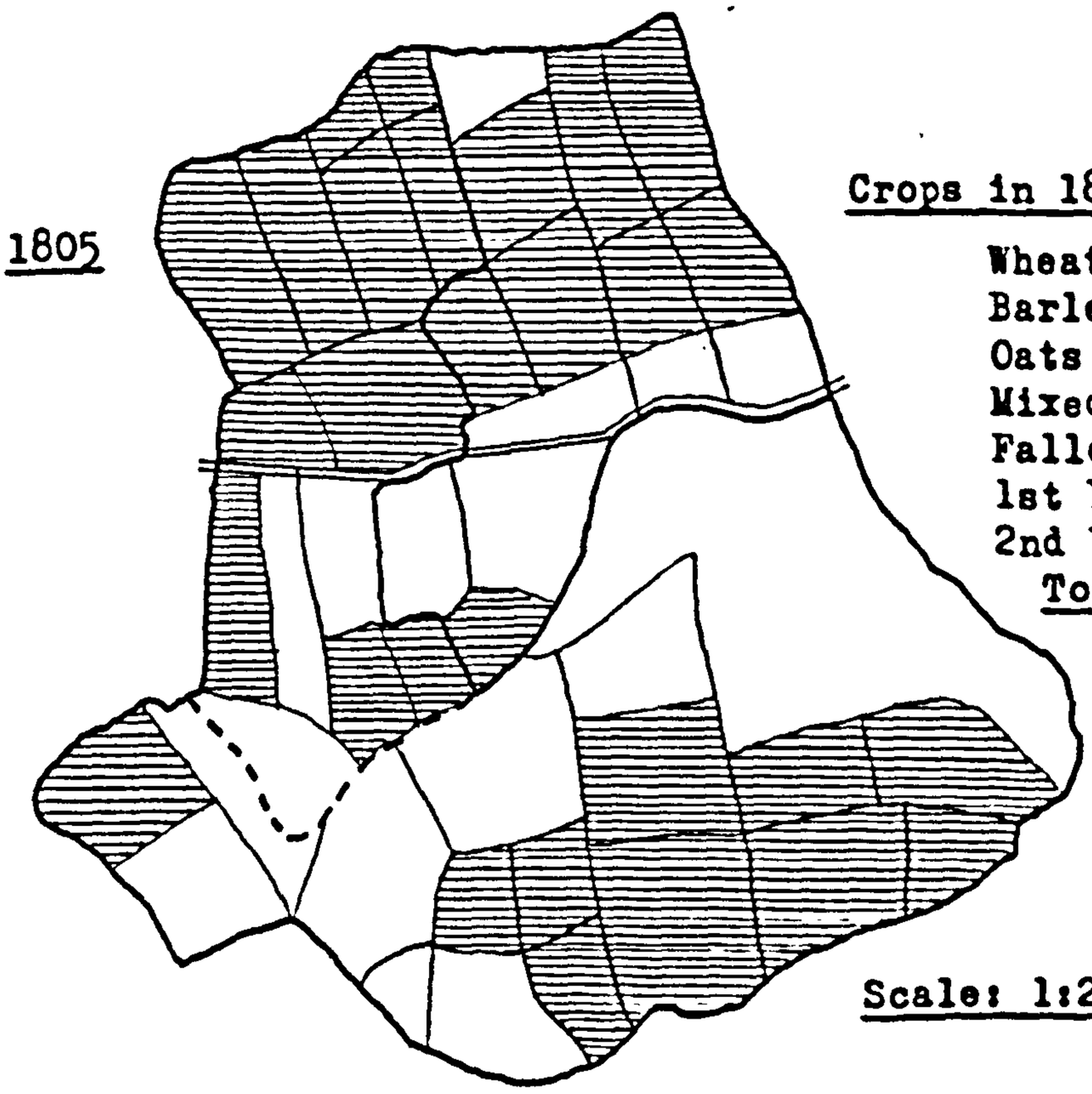
1790

Military road.



Crops in 1790	Acres. 'A'	'B'	'C'
Wheat	33	23	nil
Barley	5		17
Oats	27	35	30
Fallow	44	22	19
Clover	28	nil	nil
Total	137	80	66

1805



Crops in 1805	Acres. 'A'&'B'	'C'
Wheat	nil	12
Barley	60	16
Oats	20	24
Mixed	32	nil
Fallow	110	17
1st Yr.Clover	37	25
2nd Yr.Clover	47	15
Total	306	113

Scale: 1:25,000; approx 2½ inches to 1 mile.

it, but the high price of stock and the fortune he has had in buying in is the cause, although he is diligent about his business, and pays great attention to be a judge of stock.'

By early in December 1799 Thomas Bates's proposal had been accepted, even though at £750 it was considerably below the total of the two best bids.

Faced with this decision George Bates allows paternal pride more rein:

11th December 1799
'The improvements he means to lay out £600 on, the farm stands much in need of, and I think him fully capable of managing it. He is careful, sober, steady and regular, tho' active and full of spirits. .... I understand he means to marry is the reason he makes the application, and into a very good family which his mother and I much approve of, but he is not willing to speak out until he knows whether he succeeds for Halton.'

His agricultural proposal was attended by a success not forthcoming for his matrimonial hopes, and if one believes local gossip it was in pique that he went to the Colling herd and bought a number of outstanding animals that were to be the basis of his own herd.(1)

Here again it was the willingness of Sir Edward Blackett to accept a rent lower than the highest bid that accounts for the rather small rent increase. In this case, however, there was a considerable increase in the quantities of corn grown, as can be seen from the map opposite which shows the whole of the Halton estate. By 1815 Bates had over 350 acres in rotation on his farm, while the quantity of corn land had increased from the 123 acres on the two then separate holdings in 1790 to nearly 200 acres in 1812.

From examining these two farms where the overall increase was small

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(1) A year earlier Charles Colling had made a proposal for one of Sir Edward Blackett's farms near Yarm, though he later withdrew. George Bates's comment on the proposal was 'He is thought a man of substance and has some of the best stock of cattle in any County and a good manager of ground.'

we can now turn to a more typical farm - Halton North East farm. This, like its better known neighbour, was re-let in 1800 but there the similarity in treatment ceases for on this farm the highest bidder was the eventual tenant and the farm was once more advertised and let to the highest bidder in 1812.

When in 1796 George Bates valued the farm, he found that the 90 acres of pasture and 38 acres of meadow only supported 13 young cattle, 14 cows, 1 bull, 20 sheep and 11 horses. At that time neither clover nor turnips were being cultivated. The successful applicant of 1800 (the son of another tenant on the Matfen estate) promptly introduced both new crops, and when the next valuation was made in 1811 the number of cattle had more than doubled as had the sheep to 60 and 50 respectively. In view of this there is a strong presumption that the 93% increase recorded in 1800 was partly the result of the potential tenant's more effective techniques.

In 1812 again the highest bidder was successful and the new tenant - Mathew Brown - was paying after that date nearly 34/6d an acre for a farm which in the 1790s only paid 13/-. In 1815 Brown was in difficulties though it was noted that 'none of the tenants have done as much in draining their farms'.

> 2nd November 1815.
> 'Mathew Brown of Halton says he hopes your honour will excuse him paying rent till Christmas, as he cannot sell his young cattle at present, that are in good condition, and he has plenty of good turnips and hay to make them by Christmas.'

Apart from the increase in tillage land consequent on the introduction of a five course rotation there was no increase of note in the corn acreage

on this farm, and, in view of this, part at least of the increased rent must be the result of improved animal husbandry following new crops of turnips and clover.

Before leaving this farm, mention must be made of the fact that in the years 1812-1816 the landlord invested an average of over £130 p.a. on drainage, as compared with about £20 during the previous five years. In this case it seems that none of the additional £90 p.a. rent found its way into the pocket of the landlord, since the increase in drainage investment was rather greater than that. It was in vain, for in 1817 faced with heavy arrears and continuing low prices for cattle the rent was reduced to £230, lower even than it had been before 1812. At that point we must leave Halton North for the present and turn to three other farms let in 1800 and 1812.

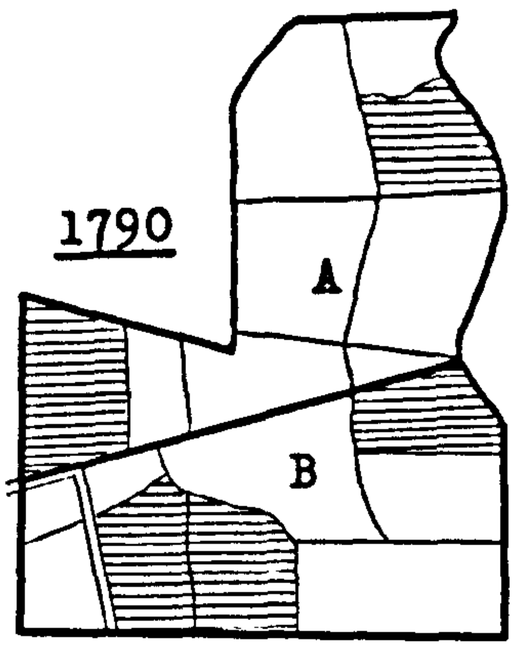
Of these three, the first, Matfen Lowhall, behaved in a very similar manner to Halton N., but the other two, Thornham Hill and Clipperheadland, while behaving in a similar manner in 1812 had produced only half as much in the way of increased rent in 1800. In this case there is no question of different treatment since on both occasions all three farms were advertised to tender and the most suitable proposer accepted. This was not necessarily the highest, as can be seen from this letter from George Bates:

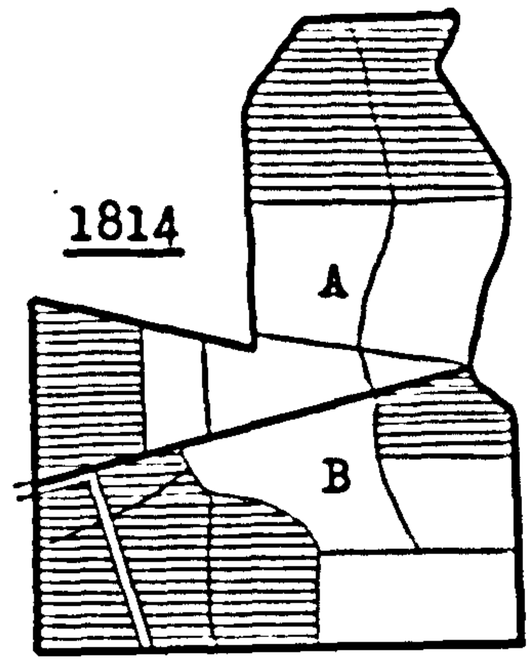
29th Oct. 1799.

'Robt.Willey and Thos.Summerbell gave the highest proposal for Thornham Hill and Clipperheadland. Summerbell has a farm in the parish of Bolden so I wrote to Mr.Blackett (Sir Edward's brother, Rector of Bolden) and the answer is: "I would advise you to agree with Summerbell for the farm, as I may then have some chance of getting £9 he owes me for part of his last year's composition for tythes. But between ourselves, I fear he is poor and what is worse loves drink and often gets into quarrels and scrapes. I

Blackett of Matfen.

Cropping: Thornham Hill ('A') 104 acres; and Clipperheadland ('B') 98 acres.





Crops 1790.

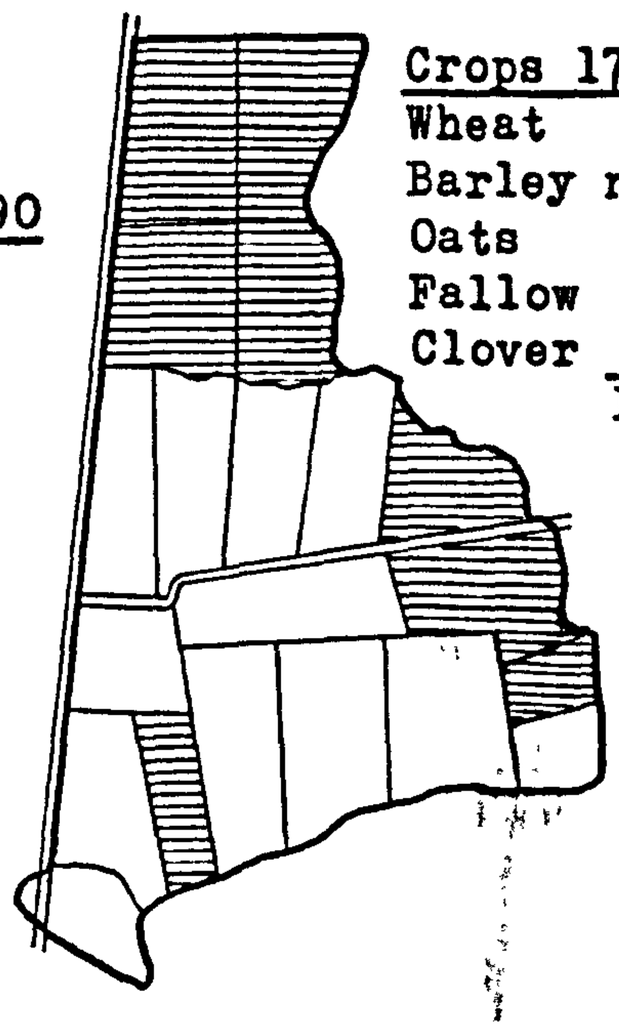
Type of crop	'A'	'B'	Joint
Wheat	10	nil	10
Barley	nil	7	7
Oats	17	5	22
Fallow	nil	14	14
Total	27	26	53

Crops 1814.

Type of crop	'A'	'B'	Joint
Wheat	7	11	18
Barley	nil	nil	nil
Oats	10	8	18
Fallow	17	28	45
Clover	16	11	27
Total	50	58	108

Cropping: West Matfen Low Hall. (268 acres)

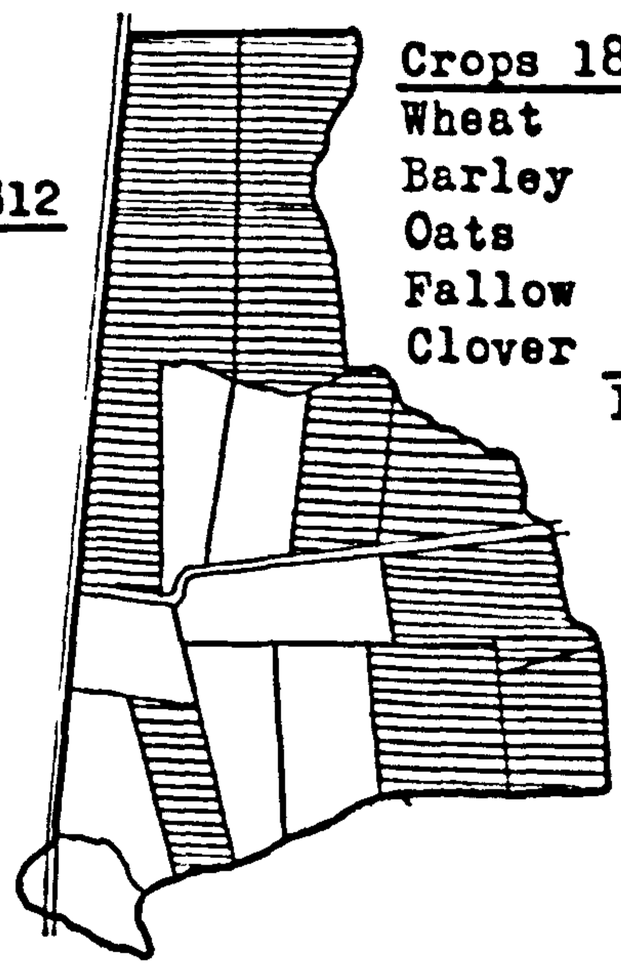
1790



Crops 1790

Wheat	27 acres
Barley	nil
Oats	35
Fallow	32
Clover	17
	111

1812



Crops 1812

Wheat	12 acres
Barley	27
Oats	45
Fallow	28
Clover	54
	166

Scale: 1:25,000; approx. 2½ inches to 1 mile.

facing p. 24

29th Oct.1799 (Continued)

> have heard that Willey is a very indifferent farmer therefore they are not to be depended on." The next highest proposal is John Barron of Aydon who is a very indifferent husbandman.'

The eventual tenants, taking the two farms as a joint undertaking, were the last mentioned John Barron's son Mathew and a certain Thos.Ridley, at a rent of £204 which was £16 below the highest bid. At Lowhall the highest and successful bid came after some pressure from the existing tenants, Michael and Edward Hutchinson (the father and brother of the Halton North farm tenant).

In 1812 in two cases the best and successful bid came from the sitting tenant, so that only at Clipperheadland did Mathew Barron give way to a new tenant. Given then that the treatment of the three farms from the point of method of letting was similar, what other factors can be considered which would account for the difference in the increases in 1800?

The map opposite shows the changes in tillage land on the three farms. The first thing to note is that at the two upper farms cropping was based on their being run as a single unit. On this unit there was considerable fluctuations in a number of acres growing corn from year to year, for example 51 acres in 1812, 36 acres in 1813, 36 acres in 1814 and 50 acres in 1815. The average of these four years - 50½ acres - compares with an average of 41 acres for the four years 1788-92 so that here there was a distinct increase in the corn acreage. At Lowhall, clover had been introduced in 1789 and here there was in addition to the expected increase in tillage following the adoption of a five course rotation an increase in grain acreage from about 60 to 80 acres.

On both the holdings therefore grain acreage rose significantly more than at Halton, but it cannot be held responsible for the differential observable between the two units here. Considerable increases in rent and the number of acres growing corn do not appear from the evidence of these farms to have any immediate correlation. If this cannot account for the difference in the size of the increase what else might?

Part of the answer is suggested in a letter from George Bates himself.

July 1st 1799.

> 'The crops of corn and grass make a very good appearance on dry, good land, but those on cold lands is very indifferent, which makes me think the farms of good dry land will let best this year. .... The farms at Halton and Lowhall are the best land and will let for the greatest advance rent. I think they may be advertized first.'

It is therefore surprising to discover on closer examination that the rent per acre prior to 1800 at Lowhall had been slightly lower than at Thornham Hill - 15/- as against 15/6d - although the rents of both had been virtually unchanged since the mid 1770s. Either Lowhall had been let in 1771 and again in 1783 below its true value, and/or Thornham Hill above its value, or some other factor(s) had tended to alter the quality of the land.

There is some support for the belief that Thornham Hill was 'over high rented' in the fact that in the space of ten years 1776-1786 there were no fewer than five tenants, three of whom left in arrears. At Lowhall the Hutchinson family had been tenants continuously since before 1750. For the second both Halton and Lowhall had had considerable sums spent on improving drainage, in the few parts of the farms where wide open dykes could be used. At Thornham Hill and Clipperheadland the problem of the bog remained unsolved till the 1870s.

Why should the best land let for the greatest advance? In so far as

the rents per acre prior to 1800 seem not to have taken these differences of productivity fully into account it can easily be explained. As the profit to the tenant per bushel of corn or per head of livestock increased in money terms, so the farm yielding an average of 20 bushels of wheat per acre as against another averaging over 15 bushels showed an increase in income in the ratio of 4:3. This difference in the additional income could then be passed on to the landlord in the form of a differentially increased rent.

Where the rent had already taken such differences into account a further factor needs to be considered - rising labour costs. The costs of labour would appear not to vary according to the quality of the soil very much, with any small difference being to the benefit of the better soil. As the cost of labour increased almost irrespective of the quality of the land, so the margin of net income became relatively as well as absolutely larger on the more productive land.

One further point to note is that the better soils were more adapted to taking the greater advantages from new techniques and crops. It was the introduction of clover and turnips after 1785 on this estate that emphasised the variations in soil quality previously less important.

There can be little doubt that it was this difference in soil between Halton and Lowhall on the one hand, and Thornham Hill and Clipperheadland on the other, which had been masked before 1800, that produced much of the difference in the increases of that year.

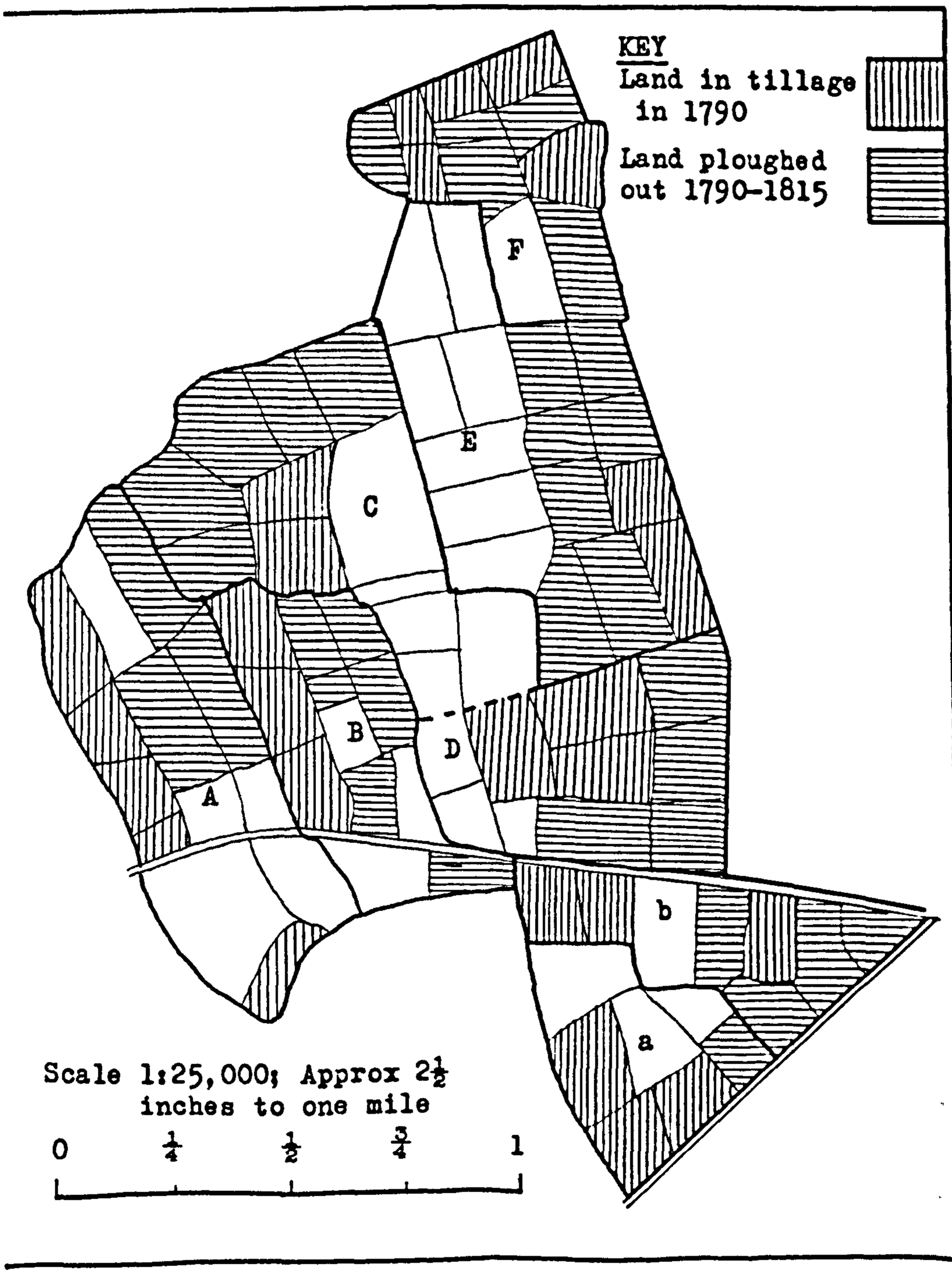
We can now check these two important suggestions - the one that no clear correlation exists between the size of the increase in rents and the size of the increase in the number of acres growing corn; and the

Blackett of Matfen.

Map to illustrate the extent to which grassland was ploughed out between 1790 and 1815 at Halton Shields and Clarewood. (1,300 acres)

Key to individual farms.

'A'	Halton Shields West farm		209 acres
a	Detatched portion of 'A'		98
'B'	Halton Shields East farm		135
b	Detatched portion of 'B'		97
'C'	Clarewood West farm	jointly	386
'D'	Clarewood Fell farm		
'E'	Clarewood East farm		256
'F'	Dewlaw farm (West Matfen)		124



second that it was the quality of the soil that was the determining factor - by a brief examination of some of the other farms on this estate. Overriding any physical properties of the farm it should of course be remembered that the whim of the landlord in being prepared to accept a lower rent than necessary was crucial.

All the farms so far examined were re-let in 1800. Those we are about to examine had been let in most cases during 1794-5 and were let again in 1809-10. In these cases there can be no question that the farms were being held considerably below their full economic value after about 1800, but it is worth noting that any such fault was amply corrected at the second letting. Though of temporary importance to the tenants involved, as well as the landlord, over the whole period the timing of re-lettings would seem to have little significance, where leases were rarely for more than twelve years.

The map opposite shows for the Halton Shields and Clarewood estates and the single farm of Dewlaw in West Matfen the extent to which grassland was ploughed out between 1790 and 1815. In every case the increase in tillage was considerable, but on only three of the farms was this accompanied by significant increases in the number of acres under corn. Table 7 gives the details as far as they are available.

Table 7. Blackett (Matfen): Cropping selected farms 1790/1805/1814-15.

Name of Farm	Ref. Map.	1790		1805		1814 - 15	
		Tillage	Corn	Tillage	Corn	Tillage	Corn
Halton Sh. W.	'a' & 'A'	104	67	131	72	not known	
Halton Sh. E.	'B' only	39	26	37	24	80	36
Clarewood W.& S.	'C' & 'D'	112	62	133	66	158	58
Clarewood E.	'E'	32	19	52	32	119	47
Dewlaw	'F'	43	24	66	32	77	40

(N.B: The figures for Halton Shields West farm include the detached portion which was an integral part of the holding, but those for the East farm only cover the portion marked 'B' since the detached portion seems to have been run as a separate holding in all but name.)

Thus at Halton Shields East the corn acreage rose from some 19% of the farm to nearly 27%, at Clarewood East from 7.5% to 18%, and at Dewlaw from 19% to 32%. Even after these increases it may therefore be suggested that none of them could be called primarily corn growing holdings. It is also worth noting that though they behave in a similar manner in this matter the size of the overall rent increase on the three farms is dissimilar in the extreme being 285%, 180% and 99% respectively. At Halton Shields West farm and Clarewood West and South farm no significant increase in the number of grain acres seems to have taken place.

Since here again no correlation seems to exist between the size of the increase in rents and in the number of corn growing acres, does the method of letting offer any solution to the problem of the differential rent increases?

When let in 1794/5 no advertisements were published asking for tenders, and in every case the sitting tenants continued in occupation. As suggested above, the difference in the size of the increase between those let in 1794 and those let the following year (10% increase in the former year, 20% - 30% in the latter) is almost certainly due to nothing more than timing. It is when these farms were re-let in 1809/10 that the striking differences emerge with three of them advancing by more than 150%, while the fourth (Dewlaw) only advanced by 79%.

In all cases advertisements appeared and proposals came in, but at Dewlaw, although a number of better bids were received, the existing tenant's offer of £143 was accepted. The highest bid had been for no less than £200, which, if it had been accepted, would have meant an increase then of 150% and an overall increase during the period of 178%. Here

again the reason for the abnormality can be seen to be the whim of the landlord.

On the other farms the best bidder was accepted. At Halton Shields West farm the detached portion ('a') was at that time severed from the parent farm so that exact comparison is complicated, but even before then the rents of the two parts had been accounted for separately so that a satisfactory comparison is possible. Here, after some pressure, the sitting tenant was prevailed to increase his bid by £10 till it equalled the highest, and given the farm at an increase of 130%. For the East farm at Halton Shields no such pressure was exerted, since the highest proposal was accompanied by a reference for character from an old acquaintance of Sir William Blackett as well as ample security.

It is significant that, whereas for the West farm there were only eight proposals given in, the highest of which offered an increase of 130%, for its neighbour there were seventeen proposals, ten of which offered increases of more than 150%. In terms of the average rent per acre for the farms this letting resulted in an increase from 14/9d to 34/- on the West farm as against from 17/9d to 57/- per acre for the East. In other words, while before the letting the East farm had paid 20% more per acre on average, afterwards it was paying nearly 70% more than the West farm.

Two related questions are posed by these facts. What made the East farm so much more attractive to would-be tenants? Why should the rent per acre of the two farms differ so markedly after 1810?

Part of the answer to both these questions is to be found by a close study of the ground. The West farm contained on its northern boundary

three fields totalling nearly 50 acres which abutted on to the river Pont and whose very names betray them - East Bog, Middle Bog, and West Bog. South of the Military Road the very large enclosure containing a further 64 acres was for the most part an almost barren rocky outcrop providing only poor pasture. Thus half of the 209 acres were of limited value. On the East farm, with the exception of some three acres south of the Military Road adjacent to the West farm, all the land was of good quality. Over the forty years from 1775 to 1815 only the one field of 17 acres never grew an arable crop.

It is unfortunate that no detailed valuations seem to have survived in which the value per acre for each field is given for these farms, unlike most of the others, so that a more detailed assessment of the relative values is impossible. There is a temptation to suggest that the successful bid by a certain Joshua Verty for the East farm was unrealistically optimistic, but in the absence of firm evidence on this it would be presumptuous to question the acumen of a farmer who was so well recommended. Even the fact that by November 1816 Verty was in difficulties and the farm was reduced to £250 (equivalent to 37/- per acre) does not necessarily invalidate the suppositions on which the bid had been made in 1809.

Here again it would seem that it was the preponderance of good adaptable land on the one farm that made it both more attractive and capable of making the greater increase in rent. There was no reason why at least three-quarters of this farm should not be in tillage, which on a five course rotation would have meant some 45 acres of corn with the rest growing good crops of both turnips and clover in succession. It

would be on the basis of such husbandry that Verty and many of his fellow proposers put in their bid. On the West farm the opportunity for expanding the tillage area after 1810 was permanently limited by geographical factors and therefore the farm offered less attractions to the progressive would-be tenant.

At Clarewood West farm the increase in 1809 was from £220 to £655, that is nearly 200% or from 11/5d to 34/- per acre. In this case the size of the increase can be easily explained by the fact that the old tenant who had succeeded his father in 1773 was George Bates's cousin, and it was acknowledged by both Sir William Blackett and the two cousins that the farm was let below its value. In addition, here, as at Halton Shields West farm, much of the farm was unsuitable for tillage,. and the similarity in the rent per acre of the two farms after 1810 supports the view that the greater increase at that date was due to the factor suggested above.

The last farm - Clarewood East - was, unlike the others, let in 1803 and 1814 at advances of 121% and 27% respectively, giving an overall increase of 180%. The rent paid per acre rose as a result of these lettings from 11/10d to 26/2d, and thence to 33/-. In 1803 the new tenant had given the best bid following an advertisement, while in 1814 the increase was the result of an agreement reached between the sitting tenant and George Bates without asking for tenders. In this case the increases, save for the differences in timing, seem to be of the same order as at Clarewood West farm, allowing for the low rent paid by the tenant on that farm prior to 1809.

The examination of these farms would seem therefore to support the suggestions made earlier, and the same holds true for the other farms

which belonged throughout the period to this estate. With the important exception of the Halton Shields East farm, none of the rents rose above 40/- per acre. In that case it is significant that this was also the farm which commanded the highest rent in 1790 and also produced the greatest overall increase - 285%. That group of farms whose highest rent was between 30/- and 40/- all showed an increase of between 150% and 220%, and in these cases most of the variations can be explained by reference to the proportion of the good quality land on the farms, or some special factor such as an avowedly low rent circa 1790. For the rest, there are some where the increase was so governed by the whim of the landlord that no further reason for their failure to conform is needed, and lastly those where the quality of the land was predominantly poor and the increase overall was about 100%.

Can these conclusions be carried beyond the confines of this one estate? At first sight the evidence for the Blackett/Beaumont estates would seem to say 'No'. For this estate the only evidence is the rent in 1792 and 1814, with virtually nothing for the intervening years, but this is sufficient to give the overall increases. In only one case is that increase as much as 100%, and on over half the farms it was less than 50%. On the Fenwick farms, situated as they were next door to those at East Matfen, the greatest increase was only 58.5% and the highest rent in 1814 did not exceed 22/- per acre. Faced with the weight of this evidence, are we committed to saying that what happened at Matfen was peculiar to that estate?

Two accidents preserve us from the necessity of such a step. The first was the purchase in 1804 by Sir Edward Blackett of the other moiety

of Ryal. The second is more important - the purchase in 1833 by another Sir Edward of the Fenwick estate itself. The fact that at that time, in the depth of the most serious depression of the post war period, while the rents on all other farms on both his own and other estates in the area were falling heavily, the new owner was able to increase the rents on those farms by nearly 20% makes it certain that they were let below their true value. When it is also noted that the rents at the time of the sale were the same as they had been in 1814 the argument becomes conclusive. There can be little room to doubt that the farms on the Blackett/Beaumont estate were grossly 'underlet' during the war.

The Ryal evidence supports this. At the time of purchase in 1804 the three farms in question were let at 19/3d, 11/6d and 9/8d respectively, which compares closely with the 20/- and 9/8d found for the two farms on the Beaumont estate in 1814. In quality of soil and so forth the two good farms had much in common as had those let at 9/8d per acre in both cases. In 1806 Sir Edward's farms were advertised and let to the highest bidders. The one previously paying 9/8d per acre re-let at 22/4d, while the other two were combined into one farm paying 27/9d. That the tenants were able to pay such rents, at least till the end of the war, suggests that the figures were not outrageously high, and that by comparison the tenants on the Beaumont estate were very well off.

The virtual absence of evidence prevents any firm conclusions being drawn from this. The same tenant or the same family name is present on every farm in both 1792 and 1814; letting by advertisement and tender was unknown on this estate, and even leases were unusual. Beyond this it would be unsafe to go since it would seem out of character for Diana

Beaumont or her son to allow any source of income to stand unchanged if there was the chance of increasing it.

Finally what of the Greenwich Estates near Meldon? What happened can be told in the words printed in Hodgson's History of Northumberland, Vol.II, part 2.[1]

> '.... The whole of this estate was relet in 1809 when the rent increased from £2,094.16. 0 to £4,509.14. 0. A new arrangement of the lands at Meldon was made at the last letting, and the farms which were principally appropriated to grazing were converted to tillage, whereby the rent was greatly increased. Additional buildings of course became necessary on this estate which with the expense of rebuilding decayed offices amounted (including a thrashing machine to go by water at Meldon Park) to £7,400 and the fencing and draining on about 3,700 acres of cultivated land to £4,000. The whole of these farms are in the highest possible state of cultivation, and considered models for the imitation of the surrounding country.'

There may well have been some special pleading here to cover up the lavish investment, particularly as the fortunate tenants included the brother, uncle, and two cousins of one of the Receivers, Thomas Wailes. In fact, the increases in rent strongly suggest a 'job' with the Wailes family being accepted as tenants of some of the best farms paying no more per acre than their neighbours were for inferior land.

Thus neither on the Beaumont estates nor on these estates of Greenwich Hospital can the results obtained from the detailed examination of what happened at Matfen be confirmed. They cannot be denied either, so it will be necessary to wait until other areas and districts are examined before we can be certain as to their value. Inconclusively, therefore, we must leave this period when Thomas Bates was the moving spirit in the Tyneside Farmers' Club, winning their prizes until asked not to compete, and turn to the

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(1) Page 11. Hodgson says he is quoting from a 'Governors' Report for 1813', but I have failed to find any such document either printed or among the P.R.O. Mss.

post war period. In his memoirs he was to write: (1)

> 'The short-horn cattle of that district, from having been the best shows I ever knew, far exceeding any in the present day (circa 1845) as a whole became the worst of any district I know of: for in 1837 at the Hexham Show there was not even the vestige of a good short-horn from Tyneside. .... and with the decline of good shorthorns, the agricultural produce of the district fell off to less than half to what I had known it on many farms.'

To determine how much of that was the jaundiced memory of a cantankerous and bitter old man and how much sober truth, even a detailed examination of what happened after 1815 cannot reveal at this distance in time.

(1)

Thomas Bell 'History of the Improved Shorthorn Cattle', pp.237-8.

The Matfen/Stamfordham District 1815-1850

November 29th 1816. John Ridley to Lady Blackett.

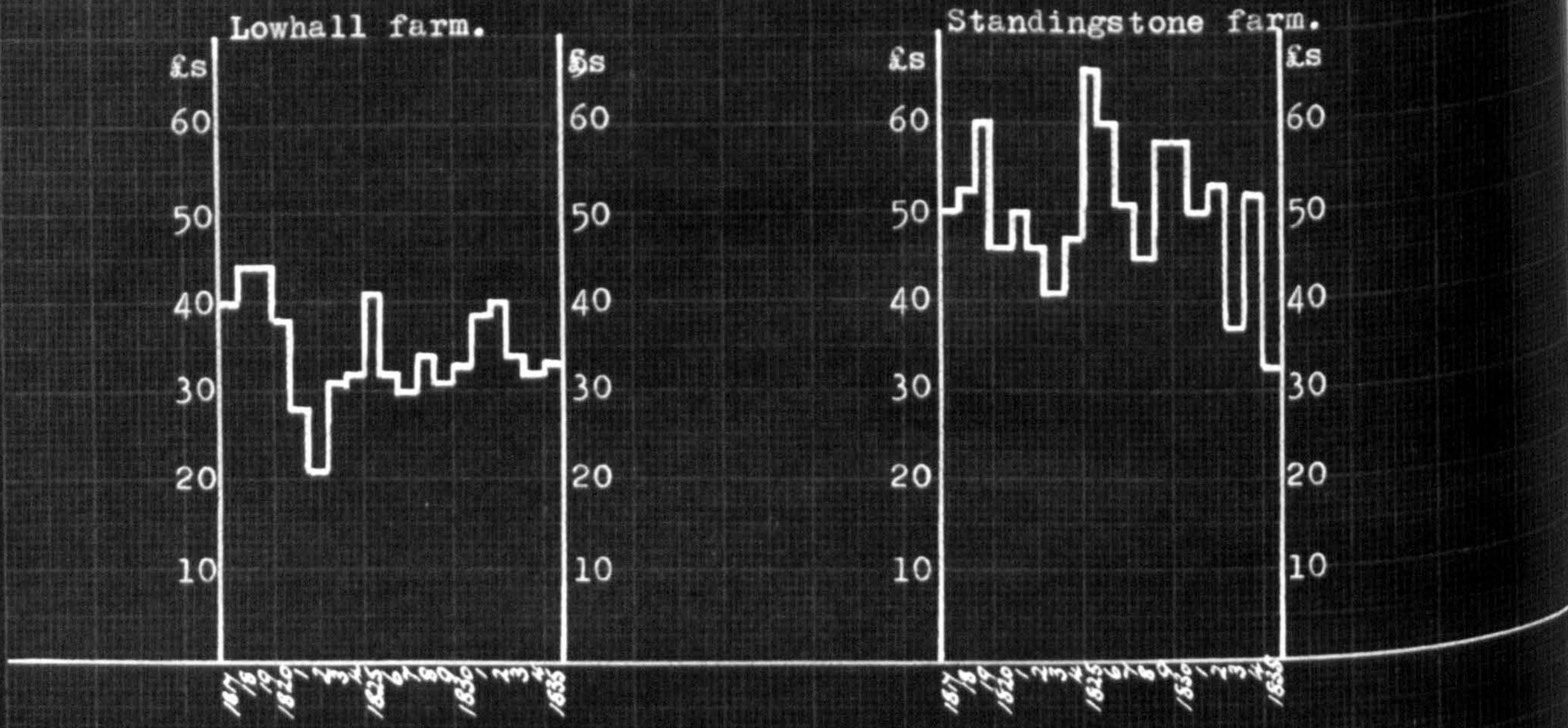
> 'I have consulted Mr.Pearson about the farms, and he advises me to value those which may be over high rented, get the tenants to give proposals for one year or so to see if times come round and send them to him with the old rents so that he may be able to judge of them. I have not the least doubt upon my mind of being competent to value them, only in these times it will scarcely be possible to please all parties owing perhaps to the want of confidence in me.'

In this letter written less than six weeks after the death of George Bates and barely a fortnight after that of Sir William Blackett, Bates's young assistant and successor touches upon many of the salient points of the whole post war period. It was doubly unfortunate for the Matfen estates that within six weeks it should lose both its owner and its agent, and that the new owner was a boy of eleven and the agent not yet thirty. Even in prosperous times confidence in the new agent would have been difficult to establish, in adversity it was inevitable that he should find himself in the unenviable position of trying to look after the interests of a tenantry and an owner neither of whom reposed any trust in him. The attempt proved fatal to him and he died in 1827 worn out by over exertions during the previous ten years which had never been rewarded by more than grudging thanks.

In many ways the two deaths during the autumn of 1816 marked the end of an era. Although George Bates was at that time 87, rents had risen with only minor interruptions throughout his life, amicable relations between agent, tenantry and owner alike were comparatively easy under such circumstances. The following thirty-five to forty years present a complete contrast, a downward pressure on rents, if not continuous, was predominant, and at certain times overwhelming, and what relief a landlord could be

Stamfordham Corn Tythes.

A. Total Tythe charge 1817-1835 Matfen Lowhall and Standingstone farms.



'B' Highest and Lowest valuations per acres for Tythe purposes

persuaded to give appeared only too often to the tenants as too little and too late.

What evidence is there for the fluctuations in the tenants' incomes in this area? The best available comes from the notebooks in which Ridley and his successors recorded the details of the Tythe valuations field by field each July in Stamfordham parish. The graphs opposite give some of the results, the top two being the actual tythe payments made by two representative farms, and the lower two the highest and lowest valuations per acre for the two principal grains grown - wheat and oats.

If, as supposedly they must, the actual figures for tythe paid reflect accurately the income from grain growing, then the variations in what was actually paid show staggering dimensions. At Lowhall the variation is from £44 in 1818 and 1819 down to £21 in 1822, and at Standingstone from £66 in 1825 down to £32.10. 0 in 1835. What such global figures fail to indicate are any changes in the acreage involved, and since the cropping books for the estate were discontinued after Bates's death this cannot be easily determined except from the tythe notebooks themselves. These, however, make it clear that changes in the number of acres growing grain of one sort or another were small, and in the case of Lowhall there is the remarkable fact that by the late 1820s more acres were devoted to grain than at any time previous.

The second pair of graphs giving the highest and lowest valuation per acre for wheat and oats show two important things. The first, that here as at Howick, high values for the two different grains do not coincide, and the second that the gap between the best yields (in money terms)

and the worst in any one year was considerable as well as the changes from one year to the next. It mattered, for instance, very much to the tenant whether his crop was proportionately worth the equivalent of a tythe valuation of 4/- per acre, or 11/- for wheat in 1833. In general, the poorer the quality of the land the nearer the average valuation per acre approximated to the lowest figure.

With this evidence for the immensity of the fluctuations during these years we can now turn to what happened on the Matfen estates in the way of rent changes. As stated in the letter quoted above, in 1816 a number of farms were valued, offers asked for and re-let as from Mayday 1817. The size of such decreases can be seen in this table.

Table 8. Blackett (Matfen) Rent changes in 1817.

Name of Farm	Rent pre 1817			Post 1817		Decrease	
	From	Rent	p.acre	Rent	p.acre	£	%
E.Matfen Mill	1811	£290	39/10	£220	30/2	70	24.2
Halton Sh.East	1810	385	57/-	250	37/-	135	35.1
Clarewood West	1809	655	34/-	450	23/3	205	31.3
Clarewood East	1814	420	32/11	360	28/3	60	14.3
E.Matfen West	1810	230	25/-	198	21/5	32	13.9
Thornham Hill	1812	150	29/-	130	25/-	20	13.3

When this is examined it appears that those farms paying the highest rent per acre prior to 1817, irrespective of the date at which such rents had been agreed, showed the greatest reductions. This is not as platitudinous as it may appear for high rents per acre were merely symptomatic of a form of intensive high-cost farming less able to stand the strain of difficult times. In the same way as in a period of inflation during the war the differential in the quality of the soil became increasingly mirrored in the rents being paid per acre, so in the post-war deflation the most productive land (which was paying the highest rents per acre) was proportionately the most severely hit. It was not because Halton

Shields farm was the most grossly over rented at 57/- per acre that it produced the greatest decrease in 1817, but because, given falling prices, its total income dropped proportionately the most.

These reductions in 1817, though not quite universal, were none the less general over the estate and achieved at least part of their objective- the reduction in arrears. For example, in 1816 the rental for the East and West Matfen, Halton, Halton Shields and Clarewood estates was £6,268, and the arrears at Martinmas £2,262; by 1821 the rental had fallen by some 12% to £5,496 and the arrears without any being forgiven or lost to £469. The opinion that 'times had come round' was unfortunately premature, for from 1822 onward pressure from the tenants for rent relief became more insistent, and succeeded in 1823 in producing a general reduction throughout the estate. The case of East Matfen Mill, though the most extreme, may be taken as an example of the size of the decline. In 1823 the rent there was reduced to £175 (24/2d per acre) which was 25% below the 1817 agreement, and nearly 40% below the rent agreed in 1811. All these reductions were granted on the understanding that all existing leases would be declared null when Sir Edward came of age in 1825.

With the notices terminating all agreements, John Ridley undertook a valuation of every farm during the summer and autumn of 1825, and it was on the basis of this that new agreements were entered into from Mayday 1826. In so far as 1825 was one of the most prosperous years of the post-war period it is only to be expected that these new agreements should show considerable advances on the rents being paid during the previous two or three years. In general, the rents then agreed were some 20% to 25% above

those of the period 1823-5 and a little above the agreed figures of 1817. At that figure they were still none the less considerably below the war-time maxima.

After 1826 Sir Edward Blackett took control over estate affairs very much into his own hands, the agent was reduced to the status of little more than chief clerk, and in place of leases annual tenancies became the rule. Because of this, the surviving correspondence between the agent and his master deals only with trivia and there is nothing to indicate the reasons for the various rent changes that took place between 1826 and 1850.

Landlord investment,with the exception of the village of Matfen, was small, and even after the establishment of a tilery in 1847 drainage did not receive much attention for ten years, till use was made of the Government loan in 1857. A total investment in drainage of £3,000 during the whole of the 1840s on the farms in this district compares with the £1,600 spent by Earl Grey on only one farm.

Despite the advent of annual tenancies, changes in rents were not a regular feature on the estate and seem to be confined to 1830-31, 1833-6 and 1840-42, when in almost every case reductions took place.

The post-war period on this estate can be summarized best by taking two farms and giving in outline form their history in tabular form.

Table 9. Blackett (Matfen) Rent changes 1815-1850.

'A' East Matfen Mill Farm,145 acres. N.B. There was no mill attached.

Period	Tenant	Rent	per acre	Index	Notes
1811-1817	J.Charlton	£290	39/10	100	Increase of 110%, 1811
1817-1823	J.Charlton	220	30/2	76	
1823-1826	J.Charlton	175	24/2	60.5	valued 1825 @ £250
1826-1831	J.Charlton	250	34/4	86.2	
1831-1834	S.Dobson	225	31/-	78	
1834-1839	J.Snowball	200	27/6	69	
1839-1851	J.Rowell	200	27/6	69	
1851-1860	J.Rowell	180	24/9	62	

As a result of these changes, the rent in 1850 was still over 30% up on the figure agreed in 1796, and nearly 45% above the figure of 1758. None the less, it becomes clear that much of the increase recorded during the war was short lived, an impression strengthened when one turns to the second farm taken as an example.

Table 9 (Contd.) Blackett (Matfen) Rent changes 1815-1850

'B' Clarewood West Farm, 386 acres.

Period	Tenant	Rent	per acre	Index	Notes
1809-1817	J.Wardle	£655	34/-	100	198% increase in 1809
1817-1824	J.Wardle	450	23/3	68.7	
1824-1826	J.Wardle	420	21/9	64	Valued 1825 @£532
1826-1830	J.Wardle	530	27/6	81	Valued 1829 @£517
1830-1835	J.Spraggon	500	25/11	76.5	
1835-1848	J.Spraggon	460	23/9	70	
1848-1857	G.& W.Scott	450	23/3	68.7	

These two typical farms reveal that despite the considerable revival in rents in 1826 no permanent prosperity occurred which enabled those figures to be maintained, and at every subsequent re-letting further decreases took place. That rents were between 60% and 70% of the war-time maxima by 1850 is almost universal, with those let at between 30/- and 40/- per acre during the war, falling to 20/- to 25/-.

For the other two estates in this district the post-war period provides little evidence since the Meldon estate of Greenwich Hospital was sold in 1832 and all the Beaumont farms save Welton were sold by 1852. On these latter farms decreases were granted in 1817, varying between 8% and 10%. But in those cases where their history can be traced, such as on the Ryal and Ingo estates, not only were there no further reductions but in some cases the rents were raised in the early 1830s after which date they remained static. As a result of these changes the rents in 1850 were between 90% and 115% of the figures for 1814. The only

conclusion one can draw from this is that the farms had been underlet during the war.

The impact of landlord policy on the rental history of comparable farms can be seen clearly on the Ryal estates where the two moieties of the township were held, one by the Blackett of Matfen and the other by the Beaumonts during this period. The rents per acre on the several farms at various dates from 1815 to 1850 are given in this table.

Table 10. The Ryal Estates of the Blackett of Matfen and the Beaumonts 1815-1850. Rents per acre

Date	Blackett Farms			Beaumont Farms	
	South	North	Fairspring	South	North
1815	27/9	22/4	With South	20/-	9/8
1820	24/5	11/5	16/3	17/9	8/6
1825	20/1	10/9	15/2	17/9	8/6
1830	23/3	12/1	15/5	17/9	8/6
1835	19/6	12/1	14/1	17/9	9/8
1840	19/6	12/1	14/1	17/9	9/8
1850	22/-	13/5	14/1	17/9	9/8

The frequent changes on the Blackett farms contrast with the continuity of rents on the Beaumont ones. When it is recalled that prior to 1790 the rents of the two 'South' farms had both been 12/4 per acre and the two 'North' farms had been 4/10 and 5/4 (Beaumont farm first) then the post-war difference becomes more remarkable. It is impossible to determine how far the very heavy investment between 1806 and 1815 on the Blackett farms contributed to their higher rents during the post-war period, but that would seem the only major factor other than landlord policy which could account for these differences. One is forced to the conclusion that not only were the Beaumont farms underlet during the high prices of the war but even after.

As already mentioned on page 255 the Fenwick farms changed hands in 1833, and although the rental at the time of sale was only £1,117

the purchase price of £42,000 could only have been asked on the assumption that the farms were capable of advancing. The Beaumont's agent in writing to Sir Edward Blackett said it was 'Unnecessary for me to state the great advance of rent which these farms will bear - your valuation, I am sure, will prove it'. Such an advance took place that the total rental went up to £1,335, while on one of the farms the increase was from £255 (19/9 per acre) to £390 (36/9d). The conclusion that the Beaumont farms were underlet is now beyond dispute. In view of this, one need not be surprised that the post-war decreases registered on those farms was so small.

The post-war period therefore emerges as one during which the income from grain on the farms in the Stamfordham area not only tended to decline, but also suffered from a number of periods of very considerable falls. The timings of such depressions are too well known to need comment. The obviously low rents and absence of change on the Beaumont farms would suggest that they cannot be used as typical,but it can also be argued that without corroboration neither can the Blackett estate. Despite this it is worth noting that on that estate the overall decreases from 1815 to 1850 meant that at the latter date rents were between 60% and 70% of the former figures. That the decreases should on the whole be more pronounced on the farms which had shown the highest actual rents per acre during the war may well follow,not from their having been 'over high rented' beyond their fellows but from factors inevitable during a period of deflation. We will have to wait till we examine the other two districts in this area before any of these conclusions can with safety be extended beyond the confines of Matfen, but before doing that it will be

an advantage to summarize the rent changes over the whole period from 1720 to 1850 in this district by taking a few representative farms.

The Matfen/Stamfordham District: Summary 1700-1850

The use of representative examples to illustrate the general pattern of rent changes in an area is a dangerous procedure unless those examples are very carefully selected. For this district I have chosen eight farms from the Blackett of Matfen estates and four from the Blackett/Beaumonts'. The criteria for selection has been simple - availability of continuous and full information being throughout the first consideration. It was next essential that nothing occurred on any of the farms in question in the way of boundary changes so significant as to make comparison of rents for the single holding at different dates unrealistic. When these two conditions had been fulfilled the final selection was determined by the necessity to ensure that the group selected, between them, covered as wide a range of results as possible. By this process it was hoped that the selection should be as representative of all the possibilities as feasible.

In order that comparison of the changes over the period should be simpler the rents per acre will be reduced in the text into index form and given at ten or five-year intervals. This presents the problem of what to use as the base - 100 for such indices, since the use of any arbitrary date may involve the perpetuation of an anomaly present in the rent at the selected date. One answer would have been to produce two or three indices based on a number of different dates in the hope that for every farm, at least for one of the three chosen, no anomalous rent was being paid. Since, however, these indices are to be used for the creation of a simplified general pattern, such a procedure would have so complicated matters as to destroy the object. The solution was suggested by the

BLACKETT/BEAUMONT 'Wallington Estate'.

'A'
Kearsley.
532 acres.

'B'
Ingo. (Bellrigg & Mucklerigg)
c.480 acres.

'C' Ryal North farm.(Mootlaw).
c. 830 acres in 1825

'D' Ryal South farm.(Demesne).
c.310 acres in 1825.

N.B. The acreages of these farms prior to 1762 are very uncertain.

evidence for the farms themselves, for by chance nearly all of them recorded a major rent change about 1760. Thus one can take that year (or by discretion a year or two later) and realistic comparison between farms becomes feasible. Finally when a change occurs in any year at Mayday the figure after that change is the one given in the indices.

The set of graphs opposite refer to the Blackett/Beaumont farms and show that, except for the period between 1790 and 1815 for which we have no evidence, no single increases were of the order of more than 50%. Because of the uncertainty as to acreages at Ryal prior to 1762, although suggested figures are given in the graphs these have not been included in this table of rent indices.

Table 11. Blackett/Beaumont 'Wallington' Estates. Rent Indices 1720-1850.

N.B: The base for each farm is of course different, being the rent per acre payable in 1760/62.

'A' Kearsley base - 5/3; 'B' Ingo base - 6/6; 'C' Ryal North base - 4/8; 'D' Ryal South base - 8/9.

Year	'A'	'B'	'C'	'D'	Year	'A'	'B'	'C'	'D'
1720	43	72	Not known		1785	129	129	106	141
1730	72	52	Not known		1790	143	129	106	141
1740	87	60	Not known		1795/1800/1805/1810	no figures.			
1750	87	75	Not known		1815	255	186	250	230
1760/70	100	100	100	100	1820/30	215	167	223	204
1780	150	150	100	141	1840/50	sold	214	250	204

At this stage only the salient features will be noted - the considerable increase in the period prior to 1760, as well as the fall between 1720 and 1730 at Ingo as against the rise between the same dates at Kearsley. The absence of any increase at Ryal North ('C') in 1780 and the fall on two of the other three between that date and 1785 are the only other major points of the pre-war period. Emphasis has already been laid on the absence of any increases during the war period comparable to those else-

BLACKETT of MATFEN ESTATE.

'E'

East Matfen: Mill farm.

c.145 acres
Liable to tythe

'F'

East Matfen: Thornham Hill &
Clipperheadland farm(s)

c.200 acres
Liable to tythe

'G'

West Matfen: Dewlaw farm.

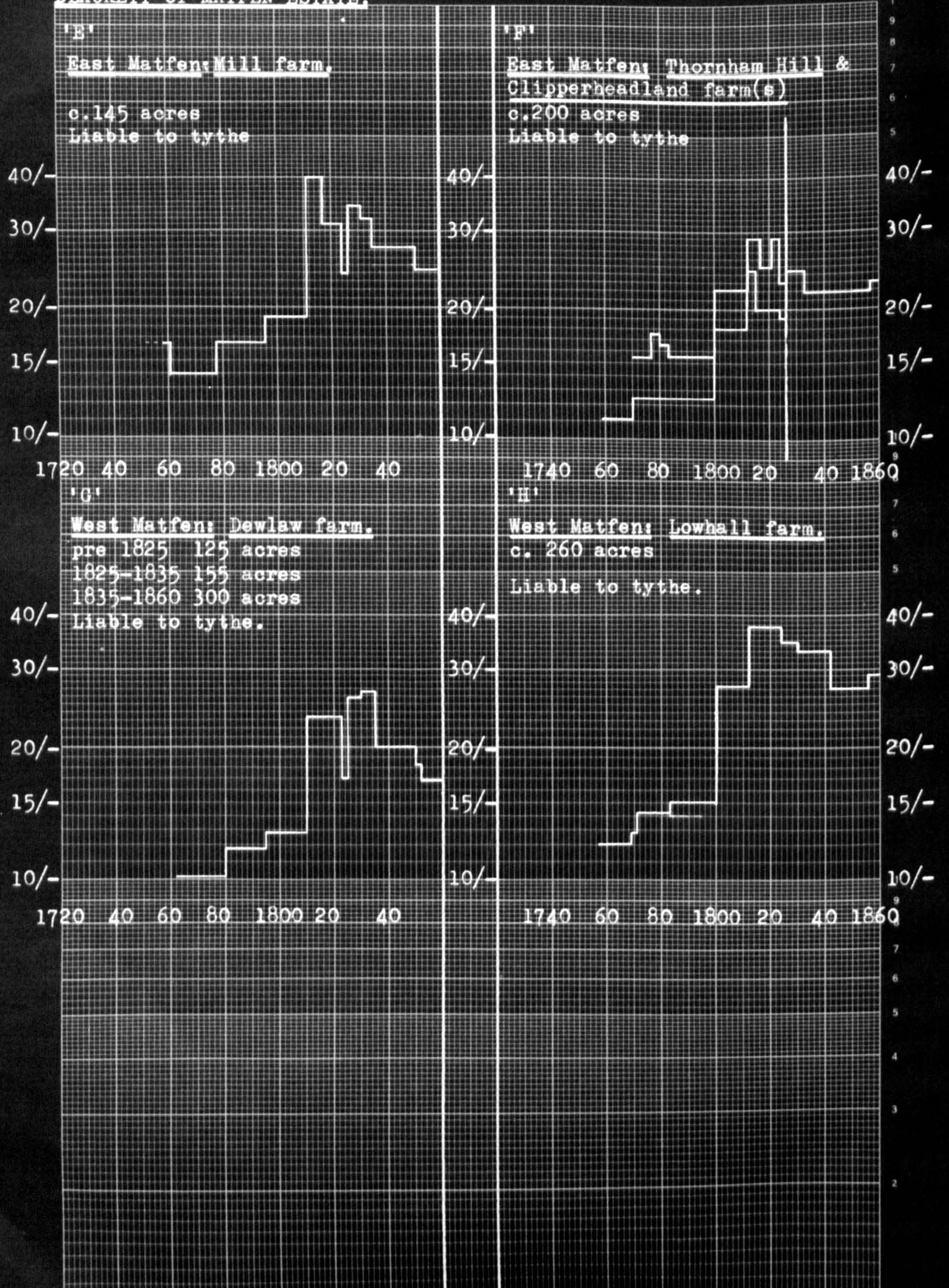
pre 1825 125 acres
1825-1835 155 acres
1835-1860 300 acres
Liable to tythe.

'H'

West Matfen: Lowhall farm.

c. 260 acres

Liable to tythe.



where, and the consequent stability of rents between 1815 and 1850. This last point will emerge more clearly when we turn to the other farms used as examples.

The very different 'shape' of the graphs opposite from those just examined is produced by two things - the presence of very pronounced increases during the war period and of significant decreases after 1815, which together result in a 'peak' virtually absent on the Blackett/ Beaumont farms. This feature will become even clearer when the indices are given.

Table 12. Blackett (Matfen): Rent Indices 1760-1850.

'E' East Matfen Mill farm base (1761) - 13/11 per acre
'F' Thornham Hill and Clipperheadland joint - 13/4 per acre
'G' Dewlaw farm (no figures before 1766) - 10/2 per acre
'H' Lowhall farm - 12/- per acre

Year	'E'	'F'	'G'	'H'	Year	'E'	'F'	'G'	'H'
1720	Not available			59	1805	136	145	126	219
1730/40/1750	No figures available				1810	136	145	238	219
1770	100	105	100	105	1815	287	202	238	312
1780	112	110	114	119	1820	218	151	168	312
1785	112	105	114	125	1825	174	145	(259)	286
1790	112	105	114	125	1830	247	184	(252)	217
1795	112	105	126	125	1835	198	164	(197)	217
1800	136	145	126	219	1840	198	164	(197)	200
					1850	198	164	(197)	220

From this it becomes obvious that although the rents per acre (and thence the base 100) were considerably higher on the Blackett of Matfen estates in 1760, this did not result in the indices reaching lower figures thereafter. In fact the reverse is true, with Lowhall reaching a peak of 312 in 1815 and 1820. The effect of timing of renewals during the war period is clearly marked, as, for example, in 1810 when two of the farms having remained unchanged since 1800 show index numbers of under 150, while the other two are over 200.

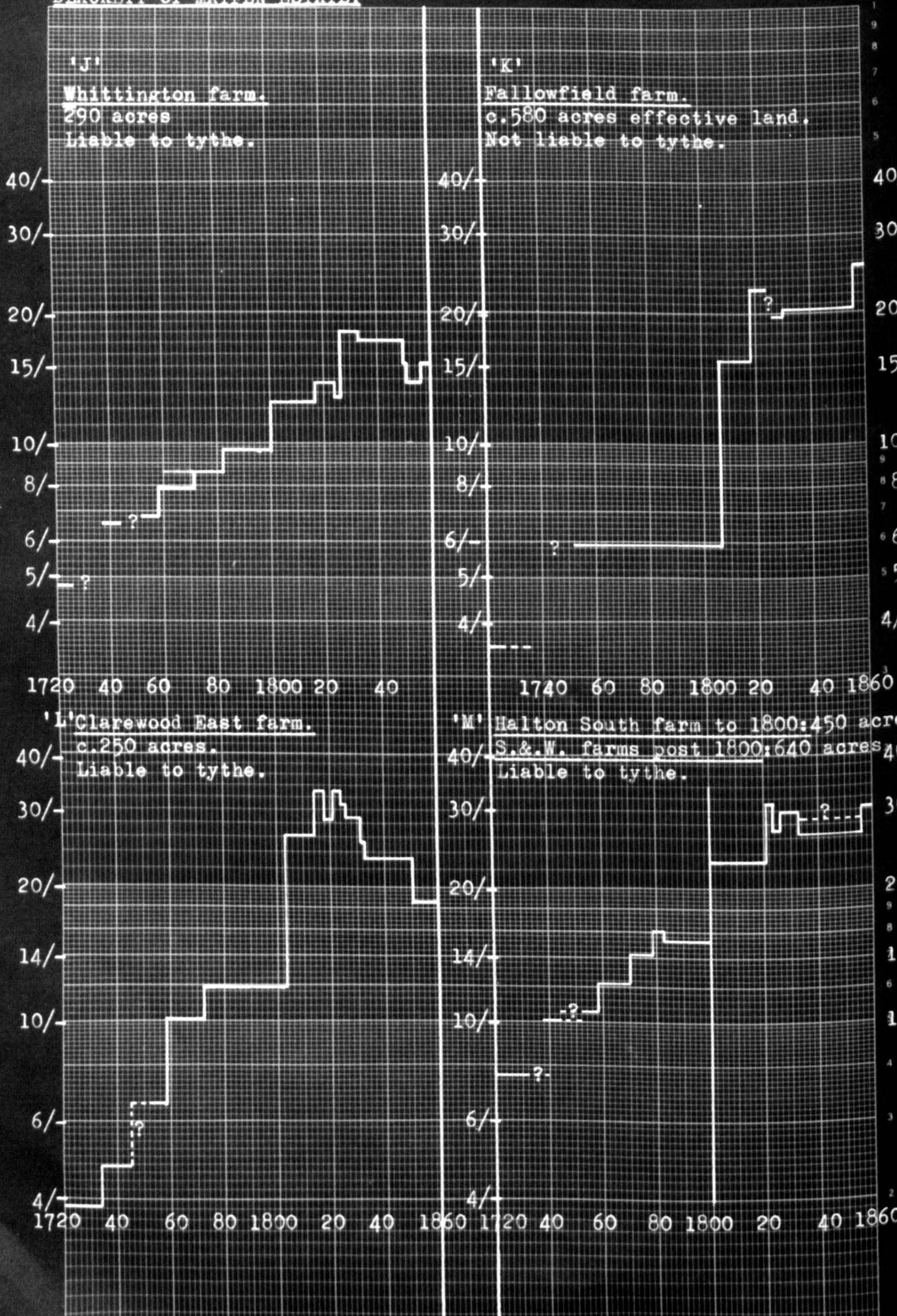
BLACKETT of MATFEN ESTATE.

'J'
Whittington farm.
290 acres
Liable to tythe.

'K'
Fallowfield farm.
c.580 acres effective land.
Not liable to tythe.

'L' Clarewood East farm.
c.250 acres.
Liable to tythe.

'M' Halton South farm to 1800:450 acres.
S.&.W. farms post 1800:640 acres
Liable to tythe.



The suspicion that prior to the re-letting in 1800, Thornham Hill and Clipperheadland farms were let 'high' finds further support in that by 1850 the index for those two was only 164, as compared with figures of nearly or over 200 elsewhere. This, when coupled with the fact that the 1795 index figure on those farms was only 105 would confirm the suspicion.

We may with profit leave those four farms at this stage and turn our attention to the last four taken as examples whose graphs are given opposite. In these cases, except at Clarewood East farm, the 'peak' is less well defined. It was noted in the text how at both Whittington and Halton South particular factors distorted their histories in 1800 and thereby subsequently, so that one need not be surprised to find that the rents on those two farms are substantially higher in 1850 than they had been in 1815. In the case of Fallowfield the Tulip family had been tenants since at least 1720 enjoying the farm 'at will' along with the lead mines. It was the absence of any lease that allowed for the 'plateau' from before 1760 till 1806, which in turn controlled in large measure its subsequent pattern.

Table 13. Blackett (Matfen) Rent Indices 1720-1850.

'J' Whittington farm. Rent 1760 8/-
'K' Fallowfield farm. Rent 1760 5/11
'L' Clarewood East farm. Rent 1760 10/2
'M' Halton South farm. Rent 1760 12/3

Year	'J'	'K'	'L'	'M'	Year	'J'	'K'	'L'	'M'
1720	61	59(a)	38	64	1805	157	100	259	184
1740	83	?	46	83	1810	157	264	259	184
1750	87	?	65	86	1815	157	264	326	184
1770	109	100	100	117	1820	174	?392	280	184
1780	109	100	117	132	1825	161	?328	302	223
1785	122	100	117	125	1830	226	?340	280	244
1790/95	122	100	117	125	1835	217	340	225	238
1800	157	100	117	184	1840	217	340	202	238
					1850	192	340	189	238

(a) This was also the figure in 1686.

The first thing to note in these indices is that the base rent per acre at Fallowfield ('K') was very much lower and would seem to account for the different order of the index figures for that farm after 1820. Apart from that, and the differences caused by the special nature of the agreements reached in 1800 at Whittington and Halton noted above (pp. 241, ff) these figures agree closely with those for the other four Matfen farms.

On the basis of these indices, though admittedly a perilously small sample, we can now suggest the limits within which, given normality, one would expect the rent of a farm to be in terms of that paid in 1760, together with the percentage change during each decade. For the period prior to 1760 the evidence is so slight that the results must be highly tentative, but thereafter as the evidence becomes fuller so the value of the results increases. It must throughout be remembered that gross abnormalities for a particular farm during the whole of the period, or a part, were common and sufficient to make its rental history totally different from the normal pattern.(1)

Such evidence as there is suggests that circa 1720 rents varied between 40 and 70 and that in the case of one of the holdings this figure was the same as it had been in 1686. Between 1720 and 1740 a decline of up to 20% was not uncommon, but the exact opposite - an increase of up to 20% - was also recorded for a number of farms. The resulting limits in 1740 are therefore between 45 and 80, with those farms which had been above 60 in 1720 often falling and those which had been below 60 increasing. From 1740 to 1760 these differences become removed from the

(1) In the following paragraphs, rents will be expressed throughout as index figures based on the 1760 figure being equivalent to 100.

index by the simple process of all rents in 1760 being called 100, but in reality this means that substantial increases of from 20% to 50% took place during those twenty years.

During the 1760s, where new agreements were entered into, a rise of from 5% to 20% took place, followed during the next decade by rather greater increases of from 10% to 30%, except in those cases where no change had occurred during the 1760s when the increase was of the order of 50%, or even more in some instances. As a result of these changes the indices ranged from 100 to 120 in 1770, and from 110 to 150 ten years later.

Between 1780 and 1785 there are again contradictory pieces of evidence with some farms increasing while others declined. The reasons are simple. Where increases took place, there had been a gap of over ten years since the previous letting, while where there was a decline it was from figures agreed after 1776. The result of this is to lower the lower level of the index from 110 to 105, while leaving the upper limit unchanged at 150. The only change between 1785 and 1795 was that the lower limit rose to 115.

For the period from 1795 to 1815 the only evidence is for the Blackett of Matfen estates, but even from them it is clear that the limits become very extended. In 1800 they stretch from 115 to 219, in 1805 from 120 to 260, in 1810 from 130 to 270, and in 1815 from 150 to 320. When one excludes those farms (such as Whittington ('J')), the gap is narrowed in 1810 by the lower limit being raised to 170, and in 1815 to 210, but even so it remains formidable. It was suggested above that the principal factor in determining to which of the limits any particular farm might

tend was the quality of its soil. In terms of decennial increases this period reveals that ten years is too long a period for any one figure to cover, but that the great increases can be confined to the period from after 1796 to before 1812, with the 1798-1806 period being that in which the pace of increases was most marked.

The 'normal' index limits of from 210 to 320 on this estate contrast with 180 to 250 on the Beaumont estates, but there is more than a suspicion that these latter farms cannot be taken as representative because they were considerably underlet.

Apart from one or two farms which had been on long leases and had to 'catch up', the post-war indices reveal that by 1820 there had been a decline of up to 20% since 1815 and that at that date the limits were from 150 to 320. The remainder of the post-war period resulted in the gradual narrowing of the gap, so that by 1850 it was only from 160 to 250. Great as this may seem, it was considerably less than it had been and the reasons for any particular farm approximating to one or the other extreme are not difficult to find. There is first of all the possibility throughout that the rents being paid in 1760 were not exactly comparable and that such differences as occurred then would become exaggerated, when multiplied. In the second place, the differential produced by soil quality and its adaptability to new crops and rotations clearly discernible during the war still remained,though of less importance than then.

In actual figures of rents per acre these indices show that a rent of 10/- per acre in 1760 could have been preceded by one of anything from 4/- to 7/- in 1720, and followed by one from 18/- to 32/- in 1815, and from 16/- to 25/- in 1850. In fact, in so far as 10/- per acre in 1760

would only have been paid 'normally' for high quality land the other figures would tend to be nearer the higher rather than the lower figure, while a farm let at 5/- would have tended to show a smaller proportionate increase.

With these results in mind we can now turn and see if they are confirmed or modified by an examination of what happened in the other districts in this area.

THE CORBRIDGE/HEXHAM AREA: Western District.

KEY

Blackett/Beaumont Estates

Greenwich Hospital Estates

Scale: One inch to one mile.

Turnpike Roads ------

Carriers' Ways .....

Spot Heights .239

0 ½ 1 1½ 2

Westwood

.230

.624

COASTLEY

.620

522.

110.

HEXHAM

Anick

Grange

.130

CORBRIDGE

DILSTON

Newtown

.764

YARRIDGE

Loadman

622.

Dotland

Park

.574

Wooley

Lord's Lot

822.

.725

Slaley

DUKESFIELD LEAD MILL

.665

Steel Hall

HEXHAMSHIRE

Coalpits

.815

.1047

Gairshields

Westburnhope

.1170

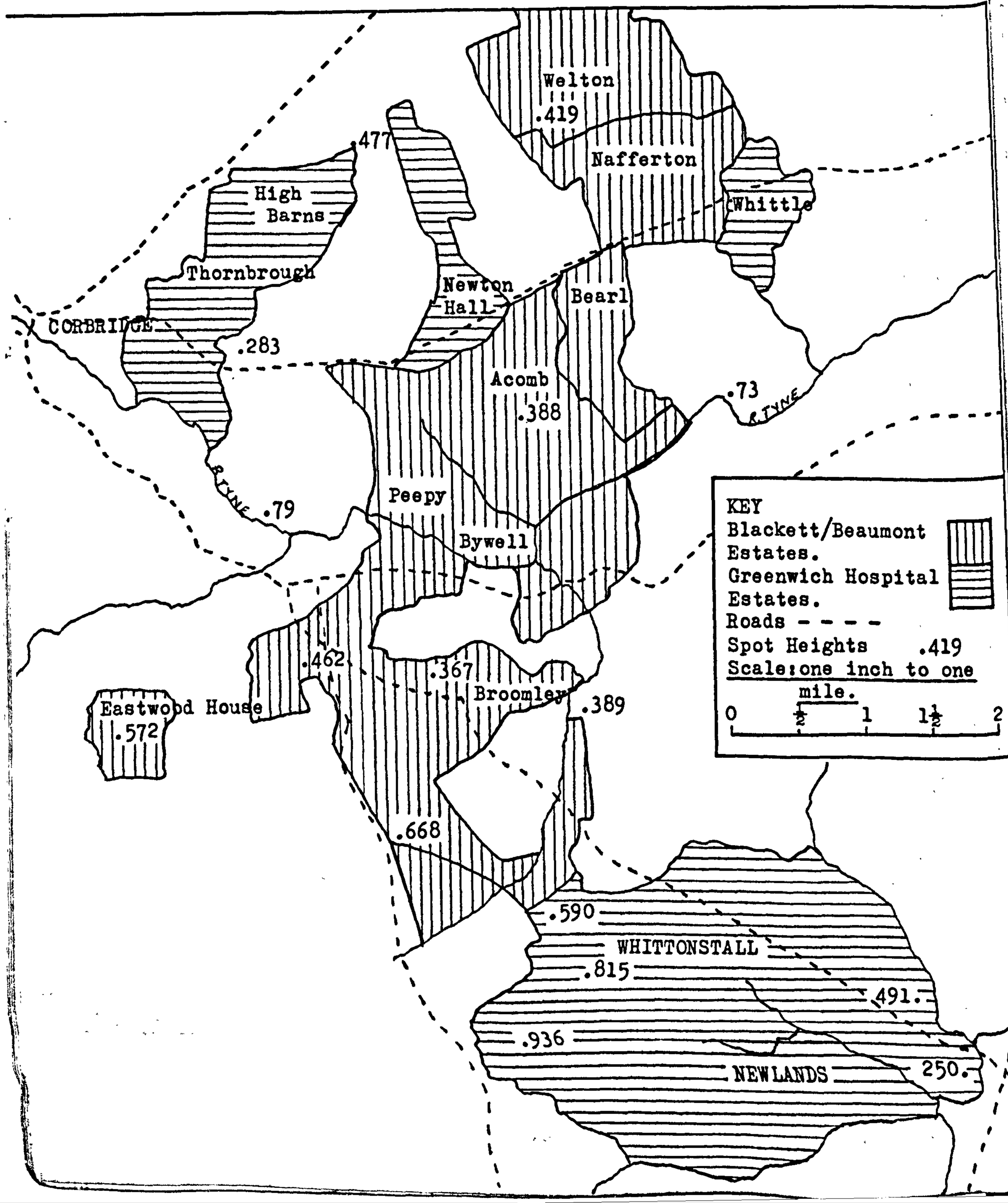
The Tyne Valley District

The maps facing this and the next page cover between them the remainder of the Corbridge/Hexham area, including both the valley district and that of the high ground to the south. This first deals with the area to the west of Corbridge, while the next deals with the area to the east of that town. The number of true 'valley' farms in this western district is few. There are two on the Coastley estate (though one of these includes some land above 400 ft.), the Dilston farms on the Greenwich Hospital Estates, and the large farm of Anick Grange, together with a few parcels of land within the Hexham boundaries.

The other estates on this map are, without exception, above the 400 ft. contour and consist of the remainder of the Coastley farms, Wooley and Hexhamshire belonging to Greenwich (in all, some 2,800 acres after enclosures), and the Yarridge, Dotland Park, Dukesfield, Coalpits and Slaley farms of the Blackett/Beaumont family. There are, therefore, only some 2,500 acres of valley land on the two estates in this area, as against some 6,000 acres of upland.

Turnpike roads were till at least the 1830s confined to the valley routes, the only bridge over the Tyne which withstood the 1771 floods was at Corbridge, while Hexham remained without a satisfactory bridge till the mid-1780s. Away from the valley the main routes were the lead carriers ways which came from the South-west (Allendale and Alston Moor), and either converged on Dukesfield Mill or passed directly down to the valley at Corbridge. From Dukesfield some of the lead pieces were carried over the hills into the Derwent valley, rather than down into the Tyne, en route for Blaydon and Newcastle.

THE CORBRIDGE/HEXHAM AREA: Eastern District.



The eastern district shown on the map opposite included a far higher number of 'valley' farms. The three Greenwich estates of Thornbrough, Newton Hall and Whittle, lying largely if not exclusively below 400 ft., totalled 1,500 acres. Over 6,000 acres of the 7,500 on the Bywell, Bearl, Nafferton and Broomley estates belonging after 1820 to the Beaumonts also were below that height. The only upland area, apart from the isolated holding of Eastwood House, belonging to the Beaumonts was the large 2,200 acres estate of Newlands and Whittonstall owned by Greenwich Hospital. Even in this last case some of the land in the extreme south-east near the River Derwent was below the 400 ft. line.

Another major difference between this eastern district and that further west is the presence from Roman times at least of important routes from south to north as well as the east-west line of the valley roads. In the extreme north of the area the Military Road, built after 1745 along the line of Hadrian's Wall, provided a further important route to Newcastle.

In brief, even the upland farms in this eastern district were on better quality land than those further west, and there was a much wider valley with rich alluvial 'haughs' whose only drawback was their being subject to flooding. Even in the western uplands there were a few pockets of rich soil (mostly alluvial) along the sides of the major streams, but by and large as one went east not only did the ground fall but the soil improved in quality.

This brief introduction can serve for both the remaining districts and we can now turn to the detailed examination of the valley farms.

The Tyne Valley District 1720-1790

For the whole of this period the evidence is restricted to the Greenwich Hospital estates, since, apart from the single farm of Anick Grange, for which information is only available after 1777, the remainder of the Beaumont lands only passed into their hands after 1820. For the Bywell estates a number of accounts have survived covering the years 1786-1797, but it is impossible to extract from them firm figures for the rents of individual farms. They do contain an assortment of interesting pieces of evidence for prices, wages and so forth, which will be used where appropriate.

Dealing therefore with the Greenwich farms alone, the task is simplified in that between 1735 and 1790 lettings were confined to four occasions - 1737, 1758, 1779 and 1788. For the period before 1735 there is some important evidence contained in some letters of 1722-23 from Thomas Errington to the Dowager Countess of Derwentwater.(1)

May 5th 1722.

> 'There is none of the leases signed by any of the tenants as yett,(sic) there is no doubt but they would have been all signed if times were as good now as they were two years since. There is every day greater complaint for want of trade, and want of money, and lands will fall as fast as ever they were advanced for it is not possible tenants can hold out to pay dear rents and have no vend either for corn or cattle.'

In June of that year the 'South Sea' was blamed for the advances in rents, and a month later he was 'much afraid several tenants will breake,(sic)there being no trade, nor no money for either corne (sic) or cattle.' The evidence does not enable us to be certain how far rents had been advanced just before these letters were written,nor how far they declined afterwards,

(1) Proceedings of the Society of Antiquaries, Newcastle, 3rd series, Vol.VII, p.30.

all we can do is record that between 1716 and 1735 considerable overall advances were made; for example from £170 to £220 at Thornbrough, and £80 to £130 at Newton Hall.

In view of these increases it is scarcely surprising that the advances made in 1737 were small (£225 and £140 for the two estates above). Apart from the adverse harvest of 1739 and the abundant one of 1741, there is little known about agrarian conditions on these farms during the twenty-one years of the leases agreed from 1737. By 1758 one important change had taken place which affected Thornbrough and Newton Hall only - the division of Shildon Common in 1755.

At the re-lettings in 1758 increases occurred of about 50% in nearly every case and it is worth noting that there was no clearly defined difference between the two estates that had benefitted from the Common division and the others. That these may have imposed a strain on the new tenants in the first few years is suggested in a letter from the Receivers in December 1761.(1)

> 'There are several farms in the Estate which are high lett (sic), and we are of opinion that, if the prices of cattle and corn do not rise, several of the farmers will not be able to pay their rents.'

This suggestion is borne out by the fact that arrears rose between 1758 and 1765 from £5,000 to nearly £10,000. Although these arrears covered the whole of the Hospital's estates the letters show that the farms in this district were among the most severely hit, and therefore presumably among the 'high lett' ones.

The great flood of November 17th 1771 resulted in the tenant of one of the Dilston farms losing stock to the value of £80 when his annual rent

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(1) P.R.O. Adm. 66/109 Dec.9th, 1761. N.Walton jun. & H.Boag to Rich.Horne.

was £256, but otherwise damage in this area seems not to have been heavy. In 1774 a visitation and valuation revealed that the rents then being paid were considerably below the full value of the land. Lands then let at between 9/- and 11/- per acre were valued at between 13/- and 15/-, so that considerable advances in 1779 were only to be expected.

In both 1758 and 1779 the boundaries of many of the farms had been so modified that it would be unrealistic to compare the rents of holdings with the same name at different times. For this reason the following table, in which the rents are given, makes use of the total figures for whole 'estates' rather than single farms, except in the case of the one farm on the Coastley estate which lay near the river - Westwood. After each figure for rent, the index figure based on 1760 being equivalent to 100 is given in brackets.

Table 1. Tyne Valley District: Greenwich Hospital Rents 1716-1790

Period	Dilston Estate	Thornbrough Estate	Newton Hall Estate	Westwood Farm
c.1716	?£390(59.5)	£170(45)	£80(39)	£60(54)
c.1735	410(62.5)	220(58)	130(63.5)	80(73)
1737-1758	420(64)	225(59)	140(68.5)	90(82)
1758-1779	656(100)	330(100)	205(100)	110(100)
1779-1785/88	995(152)	514(156)	245(119)	151(137)
1785/88 -	1,220(186)	690(209)	265(129)	210(191)

It must be noted that while before 1760 the index figures for these estates compares closely with the Matfen figures, by 1790 on all save the Newton Hall estates the upper limit at Matfen of 150 is exceeded considerably. This is not an accurate comparison for one simple reason. The Matfen indices were based on the rents per acre of holdings which retained approximately the same overall dimensions, whereas in the case of Dilston and Thornbrough the additional rents after 1779 include considerable sums for land allotted to those estates after the division of the Corbridge

and Dilston commons in that year.

At Thornbrough most of the additional land lay near the river and was already under cultivation, but at Dilston the allotments lay only in part near the river, the bulk being on the higher ground to the south. These pomplications can best be seen by taking as an example the Dilston Newtown farm. Prior to 1779 it had been held at 9/4½ per acre and valued in 1774 at 14/-, and in 1779 it was divided into two holdings following a number of allotments. The 'North' farm contained 34% of new allotment (89 acres out of 259) and was let till 1789 at 17/4, after which date it was raised to 21/9, while the 'South' farm, with almost exactly half of its 236 acres new allotments, was let at 14/- per acre till 1785, and 16/4 thereafter. The allotments given to the North farm were mostly near the river and already in cultivation, while those added to the South farm were all on the high ground and unimproved in 1779. Granted that the same land is not exactly involved, the resultant indices give (North farm first) 174 and 150 in 1780, and 232 and 174 in 1790.

One farm unaffected by allotments was Thornbrough High Barns at the northern end of the Thornbrough estate, and in its case the rental pattern conformed very closely to the pattern at Newton Hall and that of the Matfen area. In both cases, however, not only did enclosure leave them unaffected, but there was also a complete absence of rich low lying land. This latter would seem to be the decisive factor, for, whereas at Westwood it is possible to base index figures on rents per acre of unmodified holdings, by 1790 figures of between 180 and 220 are the rule. The pattern of rents in this district is reminiscent of the farms near the Scottish Border in the magnitude of their increases during the period from 1770-1790.

It would seem that advanced techniques utilising clover and turnips were applied on these farms some years before they were applied near Matfen and that it was this and not just enclosure of the commons that produced the increases. The evidence from the Bywell ledgers clearly shows that turnips were being grown and proving a profitable crop, selling for instance in 1786 at £3.14. 0 per acre on the ground. In that year the cost of seed, lime and hoeing the eight acres grown at Bywell came to £5.14. 0 which would have left, out of the total income of £29.12. 0, nearly £3 per acre net, out of which rent could have been paid. This can be put into perspective by noting that in that same year a pair of 'longhorned steers' were bought for £6. 4. 0, 45 lambs for £7.13. 9, and 15 'wedder sheep' for £10. During the period 1785-1790 the prices paid for oats at Bywell and Matfen Halls varied between 3/- and 4/6d per boll,[1] exactly the same limits within which it had moved twenty years earlier at Matfen. Corn growing, unless very much more efficient in terms of yields per acre, could not have provided the additional income to support the advanced rents. At these sort of prices yields of between 30 and 40 bushels per acre would have been needed to produce a gross income comparable with that obtained from turnips, which, while not impossible, appears high.

There remains the one farm of Anick Grange where in 1777 the rent was 12/6d per acre and rose in 1790 by 5% to just over 13/-. In this

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(1) There is uncertainty as to the size of the 'Boll'. The 'Hexham Boll' was for oats equivalent to 5 Winchester bushels. On that basis these prices would represent between 5/- and 7/6d per quarter, as against the National average of from 16/- to 19/6d. More probably these bolls were equal to 2 Winchester bushels, in which case the prices range from 12/- to 18/- which is what one would expect.

case therefore not enough evidence is available for any definite conclusions to be drawn, though there is a suspicion that by 1790 it was considerably underlet.

The pattern of development and rents on the Greenwich farms can best be summarized by taking what by 1790 were five farms and tracing their rents from 1716 to that date.

Table 2. Tyne Valley Area: Greenwich Estates Rents per acre 1716-1790

Period/Date	Dilston Demesne	Thornbrough	Westwood
1716	Not known	4/8d	6/10
1735	Not known	6/-	9/2
1737-1758	6/8 (3 farms)	6/1(1 tenant)	10/3
1758-1779	10/6 (2 farms)	9/4½(3 tenants)	12/6½

After 1779 the Demesne divided and allotments added, and the same at Thornbrough.

	Demesne Haugh	Demesne Park	S.E.Farm	High Barns	Westwood
1779-1785/88	14/9	10/8	20/8	10/4	20/-
1785/88 -	15/8	14/-	21/-	11/-	27/9

It is worth noting that in 1758 the rents agreed for these farms were in every case no higher than those being paid at the same time on the Matfen Estates and had been similar to some of them for as long as the records give information. The difference emerges in and after 1779 when rents were being paid far in excess of the highest on the Matfen estate of 16/6d between 1780 and 1790. These high rents were not general and seem to be confined to those few farms unaffected on the one hand by flooding, but on the other containing almost exclusively rich alluvial soil. Where they are being paid - as at Westwood - they mean that the rents of 1790 were over four times what they had been in 1716. The only feasible reason for this scale of increase would seem to be new techniques introduced after 1760, but before 1780 in many cases, and extended between 1780 and 1790.

The Tyne Valley District 1790-1815

For this period again, with the exception of Anick Grange, the only evidence available refers to the Greenwich Hospital estates. On the latter only one re-letting took place between 1790 and 1815 and this occurred in 1806, except in the case of the Newton Hall and Whittle estates where the twenty-one year leases agreed in 1779 had remained in force and renewal took place in 1800, and Westwood where it took place in 1809.

The bare facts of what happened at these re-lettings are given in tabular form below.

Table 3. Tyne Valley District. Greenwich Hospital Rent Changes 1800-1809.

Name of Farm	Prior to renewal			After renewal			Percentage increase
	acres	rent	p.acre	acres	rent	p.acre	
'A' in 1800							
Newton Hall	435	£265	12/2	435	£353	16/3	34%
Whittle E.& W.Fm.	188	153	16/4	184	251	27/4	64%
'B' in 1806							
Dilston Haugh W.	258	201	15/6	290	986	52/6	232%
Haugh E.	251	196	15/9				
Newtown N.	259	282	21/9	233	823	70/11	228%
Newtown S.	236	193	16/4	288	531	36/11	128%
Hall	174	116	13/4	222	390	35/3	168%
Park	175	122	14/-	304	452	29/8	113%
Thornbrough							
South	236	262	22/4	Town 438	1,202	55/-	149%
East	187	187	20/-				
North	158	121	15/3	H.B. 340	440	25/9	
High Barns	285	121	8/5				
Quarry fm.	nil.	£22/10s		84	132	31/9	
'C' in 1809							
Westwood	152	210	27/9	147	521	70/9	148%

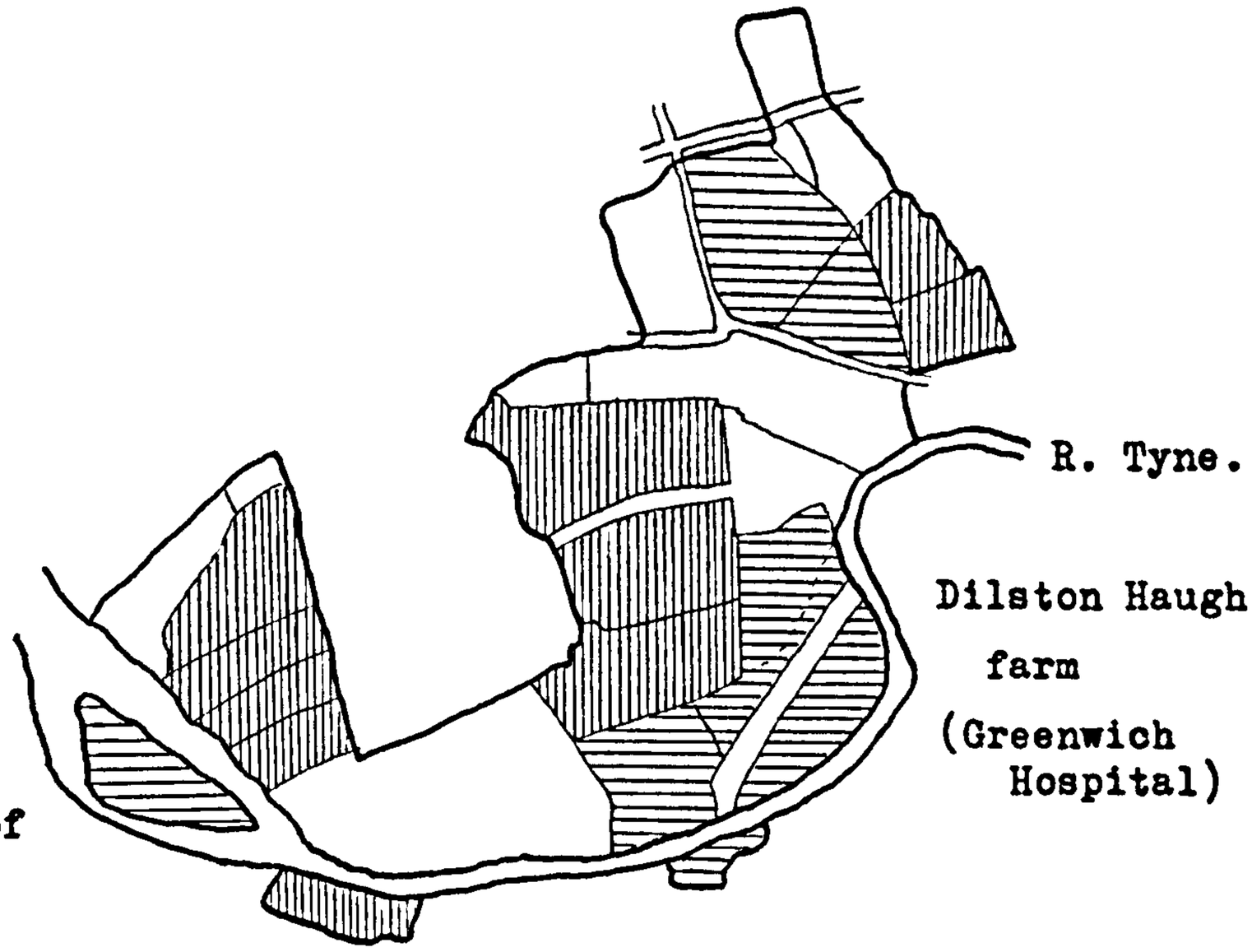
By far the most surprising thing that emerges from these figures is that rents of 70/- per acre could be offered and paid at that time. When this has been noted it is worth remembering that despite this very high ceiling the actual increases in terms of percentages of the previous lettings are

within the same limits as those found during the same period on the Matfen estates. When one seeks to discover why any particular farm should diverge from the general pattern (as for instance Newton Hall) similar answers, though in this case with the addition of a rather unsavoury note, are found. Although let by advertisement, as all the farms on the Greenwich Hospital's estates by law were bound, only one tender found its way to London, that from the sitting tenant who was also the Bailiff for the estates in this area, as well as being extensively engaged as their principal lead carrier. That it was underlet is borne out by the fact that the valuation of the estate in 1806 exceeded its rent by nearly 40% at £494, while at Whittle the valuation exceeded the rent by less than 7%.

For the other estates the valuations were in every case greatly exceeded at re-letting - for example Westwood was valued at £293 and was let in 1809 for £521 - so the suspicion is strengthened that Newton Hall was 'abnormal'. The fact that the farms in this area showed a similar increase to those near Matfen poses a very difficult problem. One cannot argue that the introduction of new techniques provided a major stimulus to increasing rents in this area prior to 1790, and at Matfen between 1790 and 1815, and still assume that the similarity of behaviour in rents between 1790 and 1815 comes from similar causes. New techniques can only be introduced once. In fact the similarity of increases masks different causes. On these Tyne valley farms the increases were accompanied by the ploughing out of grassland on a grand scale and the 'hard cropping' of the arable land. Landlord control though on paper insisting on never more than 'two white crops in succession' failed to

Blackett/Beaumont 'Hexhamshire'.

Cropping: Anick Grange farm. (431 acres effective agricultural land)



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Land in tillage in 1803 - (171 acres)

Additional tillage land by 1811 - (72 acres)

ensure that adequate supervision kept the tenantry to their agreements. The penalty of 40/- per acre for ploughing out grassland was by an error in drafting the leases allowed to become an initial and final payment rather than an annual increase to the rent. Some of the fields at Dilston were reported to have grown wheat every year from 1807 till 1814, but there are no cropping books whereby these allegations can be checked nor the actual quantities of grassland ploughed up measured.

If what happened at Anick Grange is any indication, however, the conversion to grain growing must have been on a massive scale. The map opposite shows the extent to which grassland was ploughed out between 1803 and 1811, the years covered by the only surviving cropping book. In this case no change of rotation was needed to produce the change which resulted in the number of acres growing corn increasing from 88 in 1803 to 178 in 1811. The rent of this farm was increased in 1803 from £330 to £672 following a valuation in the previous year. It is noteworthy that the old grassland fields which in the valuation commanded the highest values per acre of up to 50/- were precisely those which were ploughed out during the next decade. At some unknown date between 1810 and 1815 the rent was once more increased till it stood at £700 which was equivalent to 34/- per acre. In the case of this farm there is more than a suspicion that the ploughing out of the grassland did not even produce the highest possible rent, for in the first place even in 1815 the rent per acre was well below that being paid for example on the Dilston Haugh farm across the river, and in the second, despite the post-war fall in prices the rent of this farm was not reduced as were those of its neighbours.

In conclusion therefore the war period saw in most cases an increase

in the rent of between 100% and 230% which was very much the same size of change as at Matfen. In the case of these valley farms the reasons behind the increase were, however, different, being the extensive ploughing out of grassland coupled with a programme of hard cropping. It is scarcely surprising in view of their methods that not one of the war-time tenants of Greenwich farms was still there when John Grey came in to control the estate's affairs in 1833. Having bled the soil white they left the exhausted farms for some less fortunate successor. The problems facing John Grey in this area were largely, if not entirely, the result of the malpractices which the necessity of accepting the highest tender made inevitable unless landlord control was strictly and continuously applied.

The Tyne Valley District 1815-1850

'With regard to the cultivation of the farms.... the principal error is the perseverance in a system of hard cropping without the renovation of intermediate pasture, now that the land is exhausted by it, and the inducement to grow corn in preference to mutton and wool does not exist. ....They (the tenants) move about like men on a chess board. (1)

'The slovenly mode of harvesting the grain in this particular area exceeds anything I have elsewhere met with. ... A farmer on the Tweed or in East Lothian would be scandalized in every company and looked on as an incorrigible sloven who should leave his fields in the ordinary condition of those in this part of the County after harvest. Of the tenantry here it may be with fairness remarked that though they possess in a high degree the praiseworthy qualities of industry and frugality, they are very deficient of knowledge as to the customs and managements of other parts of the kingdom and like ignorant people in general much wedded to their own.... There is great truth in the remark made by Mr.Hunt that the Tyne is fifty years behind the Tweed in point of agriculture. Yet they are very positive and I question if even Mr.Sinclair of Newcross, Blackheath, with all his Woburn experiments could induce them to alter their course.'(2)

These two passages from John Grey's Journal, written within a few months of his appointment as sole Receiver, indicate the scope of the problem with which he had to deal. In the years between the end of the war and his appointment the negligence of the Receivers had been such as to cross the line to corruption, and the estate was in a thoroughly run-down condition. Fences, buildings, threshing machines were almost universally dilapidated, and the soil especially near the Tyne was exhausted. Rents had been substantially reduced in 1817-1818 when the tenants availed themselves of an offer to be released from their existing agreements, and though they had been raised during the late '20s they stood in most cases between 75% and 90% of the 1806 figure.

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(1) P.R.O. Adm.80/18 Appendix to Grey's Journal for July 4th, 1833.
(2) P.R.O. Adm.80/18 Grey's Journal for September 9th 1833.

If the method of letting to the highest bidder had been found to have serious disadvantages, these had been grossly exaggerated by the laxity of the agents. By what means did John Grey attempt to rectify the situation? In outline it was very simple. Since the tenants could not be induced to better methods by example, they must be coerced, and the lease, stringently applied, provided the formula for improved husbandry. As each farm came to be let, Grey made a minute examination of it and the conditions for letting were fixed in detail down to the fields that were to be in rotation and the quantities and types of seeds to be used for both returning to permanent pasture and short-term leys. Penalty clauses were made so high and the terms so strictly enforced that no deviation from the proscribed methods was feasible.

Under such control the size of the bid became less important in the selection of tenants, and it is noteworthy that those tenants who found approval in Grey's eyes seem to have had no difficulty in remaining on their farms, while no bid was high enough to secure a farm for a tenant Grey thought unsuitable. Coercion alone was not enough and Grey encouraged the tenants in all ways in his power, such as interest free loans for approved improvement schemes and generous grants for the 'new fertilizers' such as Guano and bone meal.

Landlord investment in new buildings and so forth was for the first few years heavy, as the 'backlog' of work was made up, while drainage schemes from the early 1840s based on a tilery at Dilston were extensively but carefully executed by skilled contractors. One of John Grey's particular interests was in the farm-labourers' cottages, and while we may to-day have reservations about their aesthetic qualities, for those fortunate enough then to live in them they represented an enormous advance.

To measure the success of this policy in terms of rents being paid is impossible since the first few years of Grey's appointment coincided with a severe depression and the first lease granted for any farm by Grey was therefore at a reduced rent. It is unrealistic to compare the rents per acre of these leases with the sums being paid about 1860 and then say that the increase was wholly due to Grey's activity, which is what his daughter-biographer does. It may be significant that by that latter date the Tyne valley farms were being held up by impartial experts as worthy of comparison with anything anywhere in the County.

To take the actual figures for the rents being paid per acre on a few selected farms may indicate the post-war changes, but it does not give any indication of the effect of John Grey in so far as most of the rents being paid in 1850 were based on agreements entered into during the mid-1830s, and were considerably lower than they were to be by 1860.

Table 4. Tyne Valley District. Greenwich Hospital Rents 1810-1850.

Date	Dilston Haugh	Dilston Park	Thornbrough Town	Westwood Farm	Whittle Farm
1810	52/6	29/9	55/-	70/9	27/4
1820	42/6	29/9	54/-	70/9	27/4
1825	? 42/6	? 23/7	39/-	52/-	28/2
1830	49/6	? 35/2	42/10	70/9	38/2
1840	48/3	22/6	35/6	46/4	27/8
1850	48/3	22/6	35/6	44/3	26/-

From these figures it is clear that there were considerable differences in the size of the decline during this post-war period, as well as the timing of such declines. In the case of the Dilston Haugh Farm the fact that Grey, after 1834, succeeded in providing satisfactory embankments against flooding, accounts for its comparatively high rent by 1850 in terms of what was being paid in 1810. In the case of the Whittle farm the fact that it had been let in 1800 meant that it escaped much of the steep

war-time rise in rents, while the attempt circa 1830 to pay a high rent was a temporary phase which was also present at Dilston Park farm. Excepting such 'abnormalities' it can be shown that for the Greenwich farms in this district the rents were reduced in 1817 to between 75% and 85% of the war-time figure, that reductions and abatements reduced this further down to between 60% and 75% by 1825, and that some improvement during the late twenties raised rents to some 80% of the war-time ones, or even higher. As a result of the re-lettings of the mid-1830s, a substantial drop took place and in so far as the agreements then made stood in 1850 this meant that rents at that latter date were between 60% and 80% of the war-time ones. This pattern conforms very closely to the Matfen estate and there would not appear to be much difference in the size of the decline between those farms whose war-time figures had exceeded 50/- and those where they had never reached 40/-, unless some external or accidental factor made the figures unrepresentative.

For this period there is also available very full information for the Bywell estate belonging to the Beaumont family, but this is made less useful than it might have been by the absence of figures prior to 1820, except for an isolated rental of 1804 in which no details as to the length of the existing leases are given. The role of John Grey on the Greenwich farms was performed on these estates by John Kaye, who became agent in 1856. Although starting twenty years later, his methods were much the same, though the problems less formidable. The only point of difference lay in the emphasis which Grey put on rotation grass, as against Kaye's insistence on a high proportion of permanent meadow and pasture. To illustrate the course of events on this estate I will take one farm which

is typical in essentials but where by accident we know the rent from 1803 onward. In the table below details are given of the lease rents payable throughout the period, but it must be noted that on the basis of these figures abatements were granted of 10% and 15% during the period from Mayday 1822 till Martinmas 1823.

Table 5. Tyne Valley District: Bywell Estate: Lease rents for East Acomb Farm (257 acres agricultural land) 1803-1860.

Period	Tenant	Rent	p.acre	Index	
1803-1823	Ridley	£420	32/3	100	Valued 1822 @ £351
1823-1834	A.Woodman	350	26/9	83.5	
1834-1835	ditto.	310	23/9	73.8	
1835-1836	G.Woodman	290	22/3	69.2	
1836-1851	ditto.	260	20/8	64.4	
(1857-	ditto.	280	21/6	66.7	Valued 1857 @ £285)

The first tenant, Ridley, left the farm in 1823 over £200 in arrears, but these were paid off by 1825 save for £66 which was never recovered. His successors, the Woodmans, were in arrears varying between £100 and £400 throughout the 1830s and early 1840s, but they did not quit, nor was any action taken other than exhorting them to pay, and the arrears were finally paid off in 1845. It is noteworthy that during the years from 1834 to 1836, despite the fact that the lease rents fell, abatements of 10% and 15% were still granted on these falling figures to these tenants, along with the others on the estate.

An agreement for one year from 1851 was made at a rent of £260 on this farm and the same sort of reduction occurred on the others, but it seems that this was no more than an abatement not a permanent reduction in the lease rent. If this agreement is taken as the figure for the rent being paid in 1850 (which the absence of the ledger for that year makes necessary) then it can be seen that here the rent then was equivalent to

some 62% of the war-time figure. This is rather lower than the other farms for which we have information, but the size of the decreases after 1820 on all the farms would suggest that the overall decline between 1815 and 1850 on this estate was again to between 60% and 75% of the war-time figure.

This fall occurred despite the fact that there was very heavy landlord investment, particularly in new building (£1,800 during the 30 years after 1820 at East Acomb alone, equivalent to over 20% of the gross rent receipts) and, where needed, in drainage. In the appendix the itemized accounts for three selected years for these Bywell estates (1826, 1835 and 1843) are given and from them it becomes clear that net receipts from this estate fell not only as a result of falling rents but also because of increasing expenditure. The Greenwich ledgers do not permit of so detailed a break down of the totals, but there is evidence to support the belief that, while the decline in lease rents in the Tyne valley district was of the same order as at Matfen, the net decline was rather greater because of the higher investment, particularly on drainage after about 1843, and building after about 1835.

It is scarcely surprising that the decline in this district should be rather more pronounced than near Matfen, since, on the one hand, actual rents being paid per acre during the war were in many instances considerably higher, and, on the other, corn growing had been of relatively greater importance during that period. The size of the difference may well be hidden to some extent by the much heavier investment which could well have resulted in the net receipts being under 50% of the war-time figures by the late 1840s.

The Tyne Valley District: Summary 1700-1850

For only two of the Greenwich farms in this district is the course of rents during this period a simple matter - Westwood and Whittle - since elsewhere there were so great changes in the size of the holdings that the same name for a farm sometimes disguises the fact that the land was almost totally different. The most important of these changes took place in 1779 at the same time as the re-letting and the division of the Corbridge and Dilston Commons. As a result of these changes it is impossible to use the rent being paid in 1760 as a basis for comparison with those being paid after 1779. To give the rents of the several farms which existed in the post-1800 period in terms of the rent per acre of the whole Demesne prior to 1779 is unrealistic, since the later farms contained varying amounts of differing quality, new enclosures as well as portions of the original demesne.

The graphs ~~opposite~~ over show the course of rents on the two farms at Westwood and Whittle, where no important changes in acreage took place. Since these illustrate the two extremes of the district they can be used to help evaluate the more difficult evidence for the Dilston and Thorbrough farms. From the graphs it is at once apparent that the increases at Westwood on the better quality land were considerably greater than on the other less fertile farm. Part of the reason for this is that being let in 1800 for twenty-one years, Whittle escaped the full force of the war-time inflation which affected Westwood when re-let in 1809, but it is more significant that the rent in 1850 at Whittle was as high as that at Westwood in terms of that being paid a hundred years earlier. Since both were equally subject to tythe and of similar size, the comparison of

GREENWICH HOSPITAL ESTATES. (Tyne Valley District)

'A'

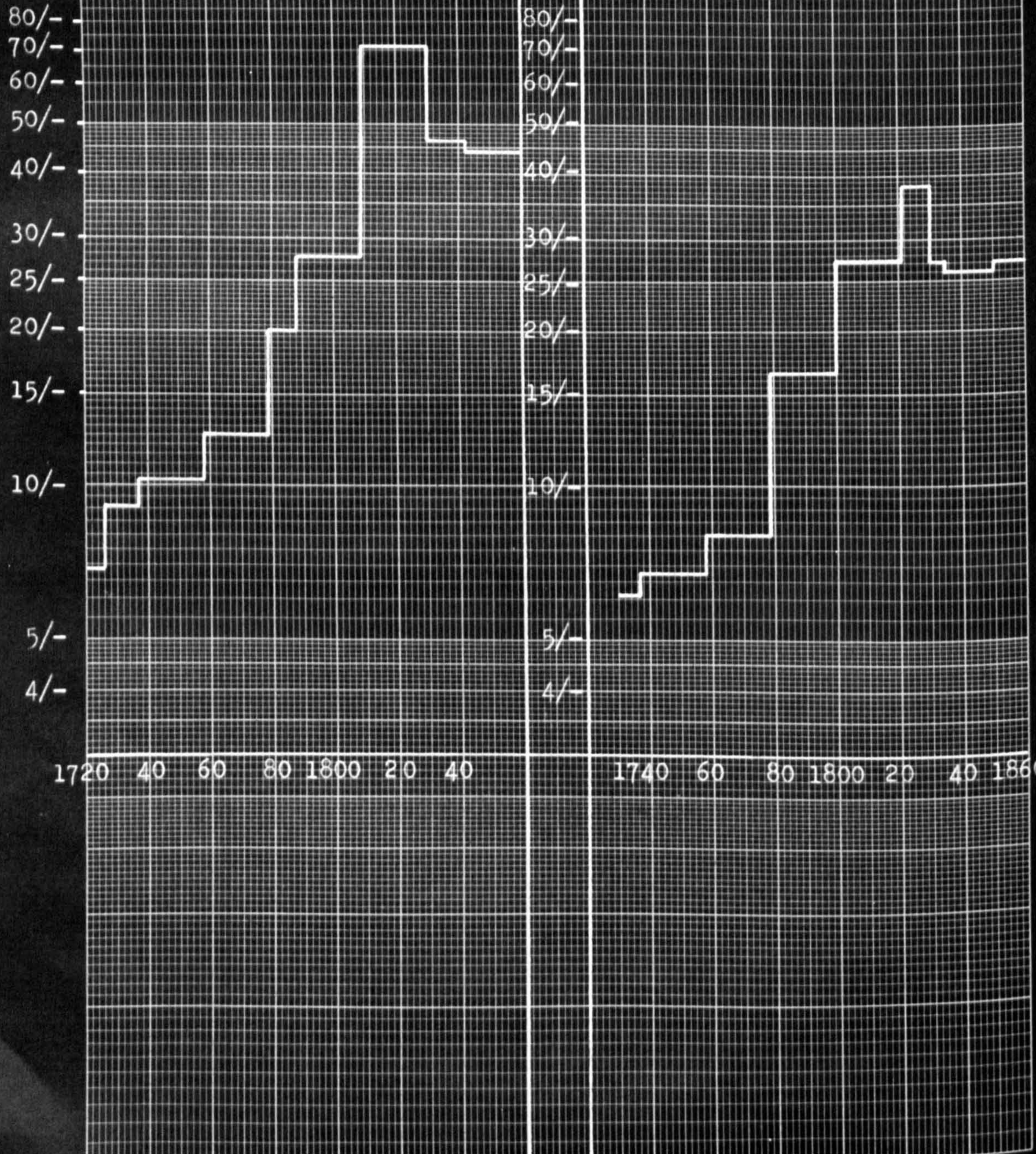
Westwood farm. (150 acres)

Liable to tythe.

'B'

Whittle farm. (184 acres)

Liable to tythe.



their rents becomes particularly interesting. It is unfortunate that at Whittle no figures for the rent per acre in 1716-20 can be given with certainty, but probably they were some 20% below the 1735 figure, or about 5/-. The indices for the two farms, based on the rents payable in 1760 are given in this table.

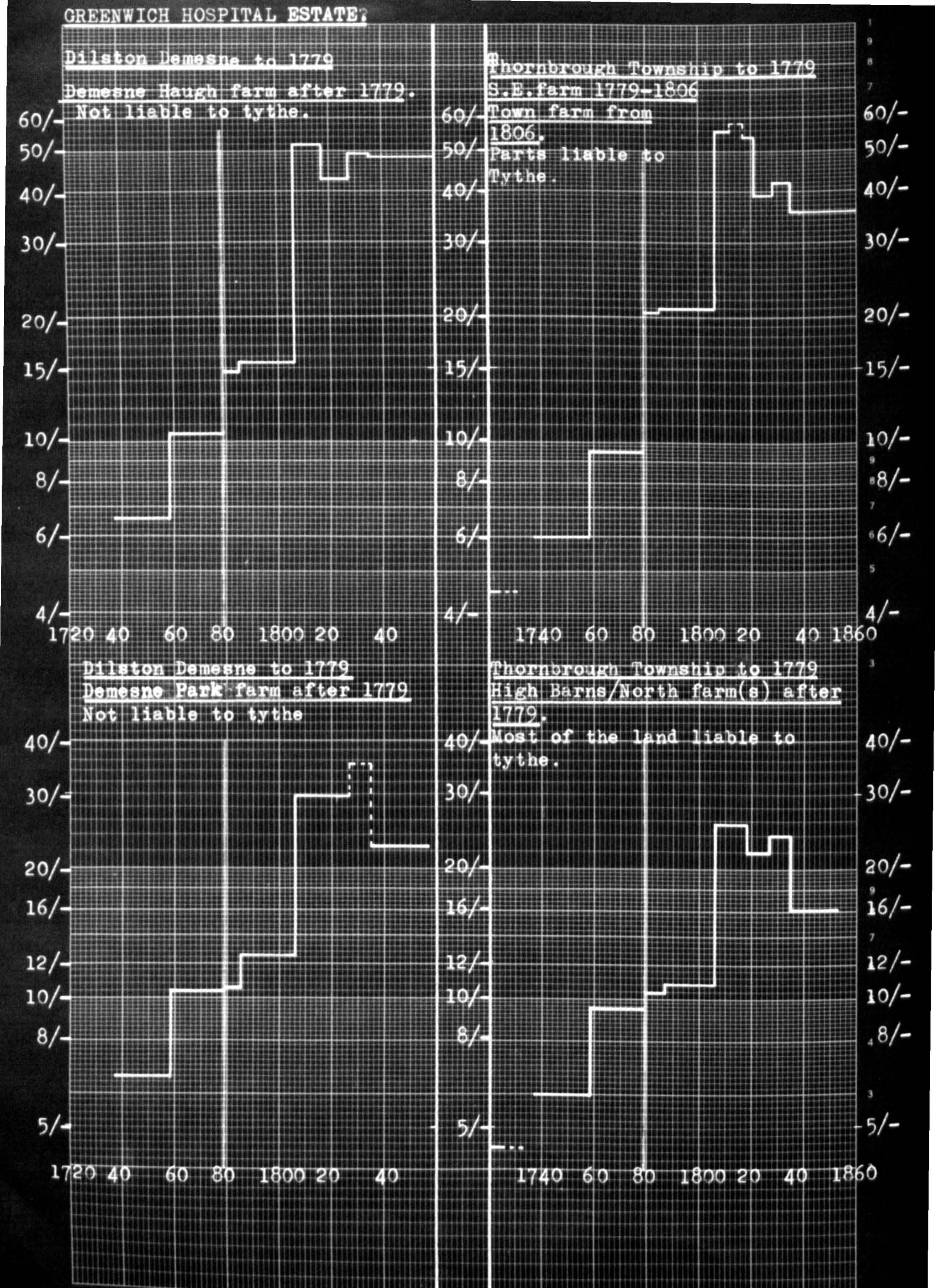
Table 6. Tyne Valley District: Greenwich Hospital Rent Indices, 1720-1850

Date	'A'(Westwood)	'B'(Whittle)	Date	'A'	'B'
1716/20	55	? 65	1800	221	341
1735	72	74	1810	562	341
1740/50	82	84	1820	562	341
1760/70	100	100	1830	(562)	475
1780	159	205	1840	368	325
1790	221	205	1850	350	340

Comparing these figures with those for the Matfen estates there are some similarities, but far more important differences. For the period up to 1779 these farms fall within the limits found at Matfen and the only important difference is that there could be no change between 1737 and 1758, and again between 1758 and 1779, because of the twenty-one year leases operating here. It is in the years from 1779 till 1790 that the crucial change occurs which marks these farms off from those near Matfen. Whereas there the upper limit in 1790 was 150, the lower is 200. The doubling of the rents in the ten years from 1778, whether achieved in one step as at Whittle, or in two as at Westwood, is in part the result of the long leases which expired in 1779 having artificially kept rents down during the 1770s, but, even so, in this district the adoption of new crops and techniques during the period would seem to be the most important reason.

The war-time increases in both districts were of the same order, but because of the increases during the twenty years before 1793 the result

GREENWICH HOSPITAL ESTATE:



here was to raise the indices to over 450. (Because of the long lease of 1800 Whittle cannot be taken as fully representative).

The index figure at Westwood of 562 contrasts with the highest in the Matfen area of 320, but this is to be explained by the fact that the war-time increases at Westwood took place on a basis of 221, whereas those at Matfen started from below 150. We have already noted how, although the war-time increases were of the same order in the two districts, the causes were not the same. What was happening at Matfen after 1790 had taken place along the Tyne valley before that date.

During the post-war period again the overall decline in this district was similar to that near Matfen, but because of the previous history this means that the index figures by 1850 near the Tyne are almost exactly 100 higher at about 350.

The four graphs opposite show the rents per acre for two Dilston and two Thornbrough farms. Prior to 1779 the rents per acre are for the large holdings, out of which the later farms were created, with the addition of common allotments. No index figures can be given for these on the basis of the 1760 rents, but in general it can be seen that the increases were of the same order on the farms as on the other two already shown. One important difference prior to 1779 is that the size of the increases in 1758 was much greater on these farms. The two top farms (Dilston Haugh and Thornbrough Town) compare closely save for the 'abnormality' at Dilston in the virtual absence of a fall after 1815, (see p.289 above), and in turn compare with Westwood; and the two lower farms compare rather more closely with Whittle.

As a result of this examination of the Tyne valley district, certain

important modifications have to be made to the rent indices suggested by the Matfen study. Prior to the 1770s the two areas follow a similar path, but after that decade they diverge markedly. The very much greater increases along the Tyne valley in the twenty years prior to the outbreak of the Revolutionary Wars meant that although thereafter the course of changes was similar a considerable difference in the indices remained. From the evidence it is not possible to determine how far it was the conservatism of agrarian practices near Matfen that made that district show no changes before 1790, or how far it was the better quality of the land along the valley floor that lent itself more readily to the new techniques. One can only note that the change took place at different times and that for this reason the course of rents along the valley floor was very different from that followed only a few miles further north.

The Hexhamshire/Whittonstall District - Introduction

The maps facing pages 275 and 276 have already shown the location of the estates in this district, and the main geographical features have been noted. The combined effect of increased altitude and a more westerly situation on rainfall and temperatures can scarcely be over-emphasised in this context. The average rainfall per annum, based on the figures for the period 1881-1915, rose from some 27.5 inches near the Tyne at Corbridge, to over 40 inches in the Westburnhope/Gairshields vicinity, and the number of days with snow lying probably trebles between the same points.

The most important factor of economic geography is the existence throughout the 18th century of an important industrial site in the Dukesfield lead mill. In its immediate neighbourhood, holdings were small and the tenants found employment at the mill a major source of income, while further away the carriage of ore or lead pieces provided the farmers over a wide area with a very important non-agricultural source of wealth. At Newlands and Whittonstall, the tenants were also engaged in the carriage trade, though in their case it was the Acton Mill (further up the Derwent valley) or Rookhope in Weardale that was the source of supply, rather than Dukesfield. Unfortunately, exact evidence as to the earnings of the several tenants from this source are not available, save in isolated cases, but it is symptomatic of its importance that the rents of both the Blackett/Beaumont and Greenwich tenants in Hexhamshire were paid not every six months but once a year immediately after the 'Lead Mill Pays' in April or May.

The pattern of settlement present at the beginning of the 18th

century is also important for an understanding of the subsequent history of the district. Nucleated settlements were confined to the eastern portion - Newlands, Whittonstall and Slaley being the only important ones connected with the estates being examined. Elsewhere, and in particular in Hexhamshire, the settlements were largely the result of medieval assarting of isolated patches of more fertile land which remained surrounded by vast areas of untouched moorland. This is true during the early years of the 18th century, even for the Coastley and Yarridge farms lying within three miles of Hexham itself. The solid blocks of land shown on the maps ~~shows~~ conceal the fact that within them lay a number of isolated holdings which had been brought within a common boundary only as a result of allotments from the common. Throughout the 18th century the process of 'encroachments' from the commons continued with the Blackett family as Lords of the Regality only rarely making any effort to discover the scale on which it was being done.

As a result of this pattern the effect of enclosure awards is rather different where the newly enclosed land was of considerable economic value from the areas where what was enclosed was unimprovable moorland. In the former case, to compare rents before and after such awards is impracticable, since the land use of the new enclosures was very different from what it had been. Where very inferior land was involved the effect was less marked, since no change in land use was practicable, the same sheep grazing the same land with or without a ring fence.

The last geographical factor to be noted is the difficulty throughout the period in obtaining lime, since it was not available nearer than Corbridge and there were no satisfactory roads by which it could economically be brought from there.

The Hexhamshire/Whittonstall District 1700-1790

24th August 1736

> 'The housing at Newlands and Whittonstall are most intolerably bad, scarce one of them being habitable, and the farms are so confused and small that there is a necessity for a division of the whole into regular farms, upon which must at least ten farm houses and out-housing be built which will cost at least £1,000 and the division hedges at least £500 more.' (1)

In this letter the first steps of the destruction of the two villages are outlined; for the new owners regular farms meant in the end fewer farms and ultimately the destruction of communal village life. Between 1716 and 1740 the number of holdings at Newlands was reduced from thirteen to six, and at Whittonstall from seventeen to nine. A comparison of the survey made by Isaac Thompson in 1737 and the visitation of 1744 shows just how far the confused and small holdings had been obliterated and replaced by large and regular ones. At Whittonstall the presence of a church helped to maintain some semblance of a hamlet, but at Newlands nothing remains of the original settlement but a series of mounds in a grass field.

Elsewhere in this district no such transformation was needed, for even if the farms were small they could not readily be treated in the same way, lying as they did in isolation. Everywhere, however, bad housing prevailed and little or no increase in rent could be expected in 1737. Even without any increase at that date there had been significant increases since 1716, typical of which was one of the Hexhamshire farms, Rowley Head. This farm of 137 acres (containing in 1737 35 acres of arable land) had been let in 1716 at £28, equivalent to 4/2d per acre. In 1721 a

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(1) P.R.O. Adm.66/105. Walton & Boag (the Receivers) to Wm.Corbett, Secretary of Greenwich Hospital.

lease was agreed for eleven years at £31.10. 0, which, while still only equivalent to 4/8d per acre, was an increase of 12½%, and also the figure agreed for twenty-one years from 1737.

In 1758 very considerable increases took place on all the farms in the district, with the total rents of the Newlands estate rising from £174 to £317, and of the Hexhamshire estate from £218 to £348. What is significant is that this was no less than occurred at Coastley where common division in 1753 had added greatly to the size of the estate. No firm reason for this can be given, but there was a considerable increase in the quantity of lead being carried from Alston Moor to Newcastle, much of which passed through Hexhamshire and Newlands but not Coastley.

In 1779 a further general letting took place, with increases of 50% or more on the Coastley, Newlands and Whittonstall farms, and over 80% on the Hexhamshire estate. In this case the fact that the production of lead pieces at Dukesfield Mill had doubled since 1758 is acknowledged as the principal factor behind the difference in the size of the increase.

By January 1781, along with many of the Hospital's tenants, those in this district were in difficulties, and those at Whittonstall and Newlands addressed a petition to the Governors which is most illuminating, not only on the causes for their distress but also on their normal sources of income. Having asked for a reduction in rents from those fixed as a result of proposals given in during 1778, they give the following reasons:(1)

> '1st. A fall of more than £40 per centum in the prices of horses and cattle.' (since the proposals were given in.)
>
> '2nd. A very great decrease in the prices of such kinds of grain as the lands occupied by your petitioners are capable of

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(1) P.R.O. Adm. 65/78. Petition dated January 18th, 1781.

> producing, owing to the great quantities of oats raised on the commons now improving, and the great decrease of workings at the collieries where your petitioners have been accustomed to dispose of their produce.'
>
> '3rd. Reductions in the price of lead carriage...'
>
> '..... Now your petitioners from their situation having no other methods of consequence for making up their rents than the breeding of cattle, the growing of oats and barley and their earnings at the lead wain.....'

To find as early as this so close an interdependence of agriculture and coal mining over twenty miles from Newcastle is surprising and it may well be that the severity of the agricultural depression of these years in this area generally owed not a little to the effects of the Armed Neutrality on the coal and lead trade of Newcastle.

In view of the depression, the rents of many of the farms were reduced quite considerably by 1790 while still remaining above the pre-1779 figure.

The changes over the whole of this period from 1716 can best be summarized by taking four examples and giving their rents per acre, noting that in one case - Coastley - there was an important increase in the size of the holding after 1753 as a result of common division.

Hexhamshire/Whittonstall District: Greenwich Hospital Estates:
Rents 1716-1790

Name of Farm	1716	1735	1737-58	1758-79	1780	1790
Aydon Shield	2/6	2/10	3/-	5/2	12/7	12/6(Hexhamshire)
Salmon Field					13/-	12/6(Hexhamshire)
Coastley	5/-	7/-	7/3	7/10	11/10	12/8(Coastley)
Lawson's Farm	(2/2)	3/1	3/4	4/3	9/1	8/3(Whittonstall)
Hall Farm	(4/-)	4/9	5/10	6/10	12/6	11/2(Whittonstall)

For the Blackett/Beaumont estate no evidence is available prior to 1771, save for the Yarridge farms and the large sheep farms of Westburnhope, and even after 1771 the evidence for the farms in the Dukesfield and Slaley area does no more than indicate clearly that none of the holdings were

looked on primarily as agricultural units. These latter farms were let at will at rents which bear no comparison with those of their neighbours on the Greenwich estates, for example West Dukesfield (also known as Steel Hall) was let to Isaac Hunter, the mill agent, at 3/6d per acre up till 1803 when the first known attempt to make an economic rent raised it to 16/5d per acre.

At Westburnhope we know the rent by chance in 1737 when it was £23 and when continuous figures begin in 1777 this had been increased to £44, and in 1779 it rose again to £60. At the time of the division in 1798 the enclosed lands totalled only some 145 acres as compared with the 672 acres of unenclosed lands and the 250 acres then allotted. For this reason it is scarcely possible to suggest accurate figures for the rent being paid per acre, but nevertheless the size of the increase here would appear to be of the same order as on the Greenwich farms.

At Yarridge the whole estate prior to 1753 was let at £80, which was an increase of £20 since 1737, but in that year, as a result of the division of the Hexhamshire Lower Quarter, Sir Walter Blackett received a total of 634 additional acres and the rent immediately rose to £230. In 1777 the rent was £270, but there is no evidence which can indicate when those rents had been fixed. An increase from £60 to £270 between 1737 and 1777 can only be explained by the common division which increased the size of the estate from some 220 to 850 acres. In one case a further increase took place in 1778 when the rent of Watch Currick farm rose from £70 to £100, and in two of the other three similar increases occurred before 1792. On these farms lead carriage played virtually no part and they were treated at least as agricultural holdings, but the lack of

evidence makes them of little use for comparison with the nearby Coastley farms during this period.

In the absence of suitable comparable material from the Blackett/Beaumont estates, the study of this district during this first period must be restricted to the Greenwich farms and the results therefore be tentative. If we take the same farms already used as examples and convert their rents per acre into indices based on that payable in 1760 being equal to 100, the figures are as follows:-

Hexhamshire/Whittonstall District: Rent Indices 1716-1790

Date	Hexhamshire	Coastley[1]		Whittonstall	
	Aydon & Salmon Shield Field	(a)	(b)	Lawsons' Farm	Hall Farm
1716	49	48		49	53
1735	56	66		72	69
1737-58	59	68		78	86
1758-79	100	100	100	100	100
1780	252		152	215	182
1790	245		160	193	162

In this district therefore there was a considerable difference between the several parts but the 'normal' pattern prior to 1758 would see rather less marked increases in that year at Whittonstall and Newlands than at either Coastley or Hexhamshire. The most important difference is that on the Hexhamshire farms without benefit of common enclosures, the rents being paid by 1790 were very much higher than elsewhere on the basis of those paid in 1760. In Hexhamshire they are of the same order as those found among the Tyne valley farms, but this cannot be put down to the same cause - new agricultural techniques - but follow from greatly increased earnings from the lead carriage. Elsewhere the rents by 1790 are between the Matfen figures of below 150 and the Tyne valley ones of above 200. The divergence from the Matfen figures is inexplicable in terms of agricultural practices, but may in part be the result again of earnings from lead

(1) In the case of Coastley the Index (a) is based on the rent being paid on the enclosed land prior to 1758 and Index (b) on the rent per acre on the whole farm post 1758.

carriage. The evidence does not permit this being more than a suggestion, but it would appear to give at least an intelligible answer to the problem. Finally, one of the most interesting features of this district is contained in the Whittonstall tenants' petition - the close dependence already present by 1780 of agriculture on the international trade in coal and lead.

The Hexhamshire/Whittonstall District 1790-1815.

After 1790 the evidence for both the Greenwich and Beaumont estates is such that detailed comparisons are possible, and the effects of landlord policy on rental history become very obvious. On the Greenwich farms in this district, as everywhere, tenders were invited by advertisements and the farm let almost invariably for twenty-one years to the highest bidder. On the Beaumont farms leases were unknown before 1814 and the farms were held at will with increases being the result of revaluation by the agent and one independent person. At the most important of these revaluations in 1801-2 the independent person was none other than George Bates of Matfen, so that the rents fixed in accordance with that valuation are of particular interest.

The effects of these differences in methods of letting can most clearly be seen by comparing the Coastley estate with the Yarridge one similarly situated and consisting of comparable quality land. Only one change took place on the Coastley farms - in 1809, and the effects of this, together with the valuation of 1806 are given in tabular form below.

Hexhamshire/Whittonstall District. Greenwich Hospital 'Coastley' Estate: Rent changes in 1809.

Name of Farm	Acres	Rent up to 1809	Valuation 1806	Rent Post 1809	Increase % in 1809
Coastley	413	12/8	19/-	37/5	198%
Highwood	182	12/9	26/1	35/2	176%
Longhope	247	6/6	13/-	16/6	154%
Bagraw	137	7/4	11/8	17/8	142%
Highside	78	9/6	11/4	15/6	71%
Heckford	114	10/5	14/9	16/11	63%

What factors can be suggested to account for the enormous variation in the size of the increases in 1809? The six farms fall into three pairs, two showing both very high increases of over 175% and rents in excess of 35/-, another two showing increases of about 150% leading to rents of between

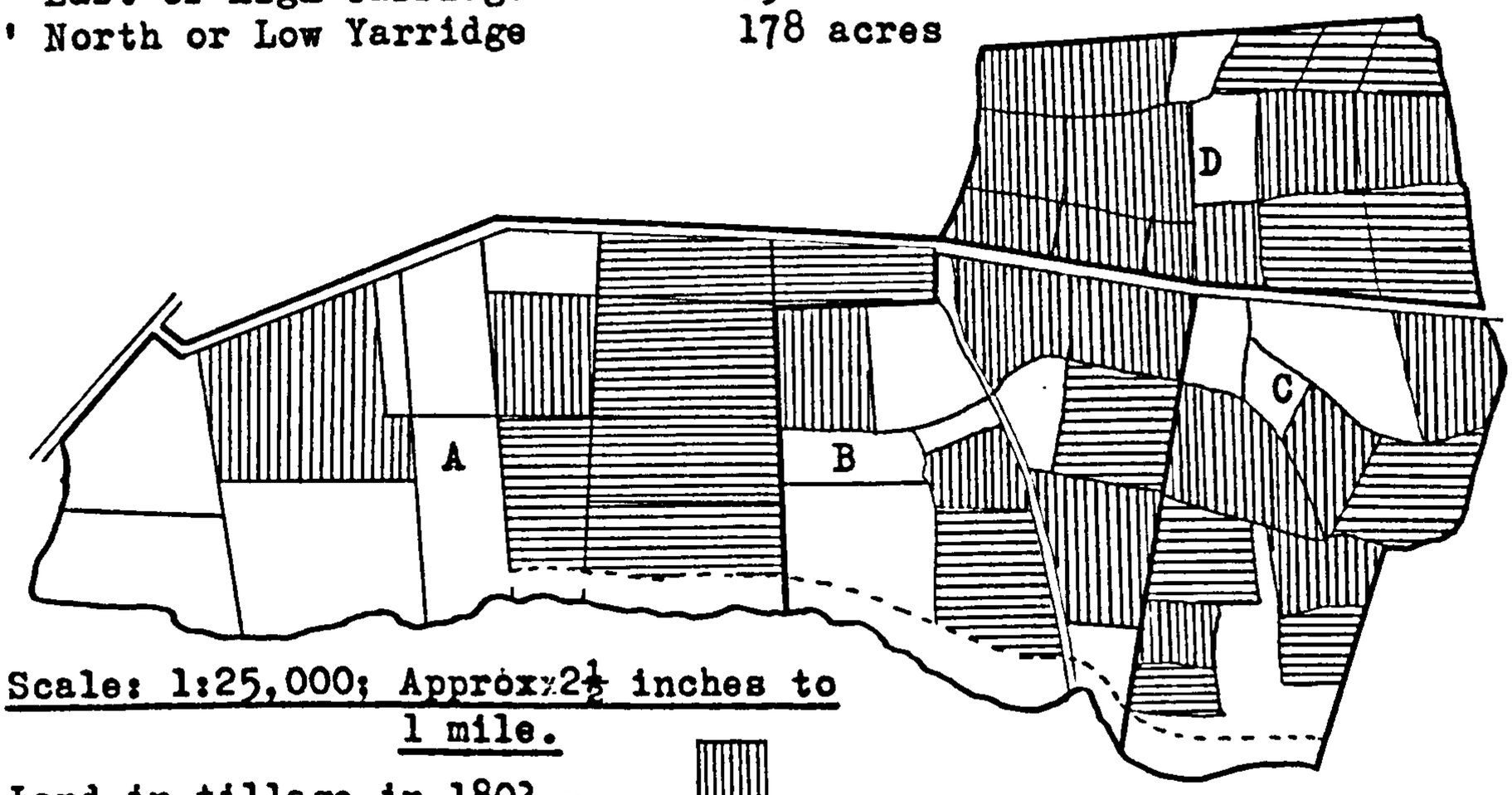
15/- and 18/-, and the last two showing the smallest increase of less than 75% but also rents of between 15/- and 18/-. The higher rents per acre being paid before 1809 on the first two farms support the view that the better quality land was able to command the greatest increases, but no such factor can easily explain the differences between the other four farms, all of which were on similar quality land. One thing to note is that prior to 1809 the rents per acre for the two farms which increased by less than 75% were significantly higher than the valuation figures of 1806 would warrant in comparison with the other two. The post-war history of these farms furnishes further evidence, for at Longhope where the 1809 increase was 154% the decline from that by 1850 was to almost exactly half, but at Highside the smaller increase of 71% in 1809 was followed by a much smaller fall by 1850 so that the rent then was still three-quarters of the 1809 figure. In both cases the rent per acre in 1850 was exactly 25% higher than that being paid before 1809, so that it becomes obvious that the lower increases at Highside and Heckford were 'abnormal' in the sense that the normal pattern of post-war changes was significantly modified as a result of the absence of considerable war-time increases. The surviving evidence does not allow us to decide the reasons why this abnormality should have taken place.

How does this increase of over 140% as 'normal' compare with what took place on the Beaumont farms at Yarridge? For the whole of the period the evidence is defective in that for two of the farms leases granted in 1814 have survived which show rents greatly in excess of the figures for 1818, when the first full rental after 1810 occurs. To use the 1818 rental as a guide to the highest war-time rents is impossible, since the

Blackett/Beaumont 'Hexhamshire'.

Cropping: Yarridge Estate. (c.850 acres)

'A' West Yarridge (Watch Currick)	330 acres
'B' Middle Yarridge (Black Hill)	192 acres
'C' East or High Yarridge	152 acres
'D' North or Low Yarridge	178 acres



Scale: 1:25,000; Approx. 2½ inches to 1 mile.

Land in tillage in 1803 -

Additional land ploughed out by 1811.

N.B. Some of the tillage land of 1803 had been laid down to grass by 1811.

Details of crops	1803 'A'	1803 'B'	1803 'C'	1803 'D'	1811 'A'	1811 'B'	1811 'C'	1811 'D'
Wheat	21	7	20	29	29	nil	22	22
Barley	nil	nil	nil	8	14	16	nil	8
Oats	19	42	21	37	70	45	24	30
Total Corn	40	49	41	74	113	61	46	60
Bare Fallow	20	8	27	14	46	18	20	27
Turnips	nil	8	nil	nil	nil	nil	nil	nil
Clover	nil	30	nil	12	44	33	35	30
Total Tillage	60	95	68	100	203	112	101	117
Tillage land as a percentage of the whole farm	18%	50%	45%	56%	62%	58%	66%	66%

face

decline by then from the 1814 figure is not constant for all the farms for which the leases of 1814 have survived. On all the farms, an increase took place in 1803 in accordance with the valuation of the previous year, and this, together with the 1814 lease figure, is given below:

Hexhamshire/Whittonstall District: Beaumont Estate 'Yarridge': Rent Changes 1800-1815.

Name of Farm	Rent pre 1803	Rent post 1803	Increase %	Rent 1814	Increase %	Overall increase %
High Yarridge	7/11	11/3	42%	No details available		
Low Yarridge	9/-	12/6	39%	No details available		
Black Hill	8/-	11/2	41%	15/9	41%	100%
Watch Currick	5/-	7/-	40%	10/4	48%	107%
Dotland Park	7/9	13/1	70%	No details available		

Apart from the greater increase at Dotland Park consequent on its rent prior to 1803 having been unchanged since 1784 (when it had been considerably reduced) as against the others whose rents had been increased in 1790 or 1792, the most obvious point about the 1803 increases is that they are all of the same magnitude. The fact that these increases took place in 1803 rather than 1809 goes a long way to explaining their smaller size as against the Coastley farms, and the fact that even in 1814 no tenders were called for but the sitting tenants agreed to the new leases would seem to account for the overall increase being rather smaller.

The map opposite shows the extent to which grassland was ploughed out between 1803 and 1811 on the four Yarridge farms, and apart from the very considerable increase in arable land, particularly at Watch Currick, the most interesting things to note about the cropping are the absence of turnips, the increased use of clover, and the preponderance of oats as opposed to wheat on the two western farms. (Watch Currick 'A', and Black Hill 'B'). On the nearby Dotland Park farm the pattern is comparable with a slight increase in corn acreages, but a very marked increase in the

clover grown. From this it can be suggested that the war-time increase in rent on these farms was in part connected with the extension of clover, but equally there was a very considerable increase in arable cultivation wherever suitable land was available. The method of letting preserved these Beaumont farms from the full effects of speculation and inflation witnessed at Coastley, and the results of this can be clearly seen in the rental history of the post-war period later.

No such detailed analysis of the rent changes on the other Beaumont estates in this district is possible, since there were very important reorganizations of farm boundaries carried through both in 1803 and later. A typical example of the changes in rent is West Coalpits where the changes in size were untypically absent. Prior to 1803 this farm had been let along with the other Coalpits farm at an average rent per acre of 5/3d. Following the valuation of 1802 the rent was then increased to 9/9d, and in 1814 the surviving lease shows the figure to have been 14/9d. Even allowing for the fact that the 5/3d for the two holdings is slightly below the figure that should be put on the rather better quality land of this west farm, the overall increase is still in the neighbourhood of 150%. On this farm no increase took place in the quantity of tillage, clover had been included in the rotation by 1803, and turnips were never grown. In part, the size of this increase in the rent is the result of the farms having been previously grossly under-rented, but this cannot account for the further considerable increase of 1814.

For the Greenwich estates of Hexhamshire, Newlands and Whittonstall, there is the complication of changes in the size of the units, aggravated in Hexhamshire by the presence of large quantities of common allotments which had been divided in 1793.

One interesting point about the Hexhamshire farms is that although some of them had been more than doubled in size as a result of the enclosure, no change had taken place in their rents since 1788. Thus rents per acre show a very marked 'nominal' drop, while the actual rent being paid remained the same. For this reason the figures given in this table for the rents per acre prior to 1809 differ from the figures given above on page 301.

Hexhamshire/Whittonstall District: Greenwich Hospital Estate.

Rent changes in 1809.

	Pre 1809		Valuation	Post 1809		Increase
Name of Farm	acres	p.acre	1806	acres	p.acre	%
Aydon Shield	232	8/1	15/6	178	20/4	150%
Rowley Head	200	7/8	13/4	194	21/-	172%
Salmon Field	224	7/-	15/2	? 372	14/7	110%
Wooley farm	272	8/7	16/6	272	17/7½	109%
Newlands Town	175	8/8	15/5	180	20/3	134%
Whittonstall Lawson's	202	8/4	13/3	227	16/5	98%
Fairle	278	7/11	15/5	250	17/3	119%

For the whole of the Hexhamshire estate the increase in 1809 was 80%, and at Newlands and Whittonstall 108%, and, in general, increases of about that size occur, with greater increases usually resulting from the alteration in the size of the farm. Thus at Aydon Shield the 44 acres which were taken away in 1809 were all rough grazing, and at Rowley Head the 194 acres after 1809 included only the best half of the 200 acres of pre-1809, plus a further 90 acres of old enclosed high quality land.

The survival of the lead carriers' names and receipts for 1814 enable us to determine the exact size of this source of income. For example, Joshua Green was tenant at that date of Aydon Shield, and a man of that name received £125 for ore carriage, which, if they were the same person, would have gone a long way towards paying the £182 rent for

the farm. In the same way the Mark Maughan who received £105 for ore carriage was probably the same Mark Maughan who was tenant of Myrehouse farm, then let at £145 per annum. Only such income could explain rents per acre of 20/- and upward for these infertile farms. In view of this it would be unwise to place too much importance on the smallness of the rent increases here as compared with Coastley or the Tyne valley farms.

The smallness of the increases at Newlands and Whittonstall may have some connection with the fluctuations in the lead trade, which was particularly depressed during the crucial years 1808-1809, when tenders were being put in for the farms, but this is unlikely to have been of the same importance as in Hexhamshire. The probable answer is to be found in a passage from John Grey's Journal in July 1835.(1)

> 'To manage an estate with a tenantry without capital, is like driving a team of tired horses, no point can be obtained however desirable. And I fear the evil is without remedy as no farmer with capital to choose his own locality would be likely to migrate into the districts of Hexhamshire and Whittonstall.'

The farms in this district could not hope to attract the same interest as the rich valley farms along the Tyne, and it is symptomatic of this that the number of tenders received for these farms prior to 1809 averaged less than ten, as against the twenty to thirty common for the valley farms. The greater attractiveness of the Coastley farms makes them comparable with the Matfen District, but among the less fertile farms given a temporary but severe depression in the lead trade in 1808-09 no such attractions existed and the war-time increases were consequently much less pronounced.

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(1) P.R.O. Adm.80/20 Journal of John Grey entry for July 22nd 1835.

The Hexhamshire/Whittonstall District. 1815-1850.

The closing of the Dukesfield Lead Mill in 1834 was for many of the farms in this district by far the most important event of the post-war period. The advent of the Railway along the Tyne valley to Haydon Bridge and beyond, by making the old lead carriers' ways obsolete, coupled with the desertion of the lead mill site, meant that in many ways the Hexhamshire Higher Quarter became more cut off than ever from the outside world. No through roads passed that way and the income from lead carriage was lost to the tenants who remained. The most obvious effect of this was to reduce the number of holdings as the smaller ones ceased to be economic units and were amalgamated into larger units.

A further complication was that under the pressure of localized population based on the lead mill, many of the farms had been lured into producing cash crops which their climate made impracticable except under special conditions. The combined effect of these catastrophes are eloquently pointed out by John Grey in his Journal, when in 1833 he notes the condition of Gairshield farm already affected by the running down of production at Dukesfield.(1)

> 'Gairshield .. is the 'Ultima Thule' of Hexhamshire. The perfection of poverty displayed - a large house, useless buildings and fences in ruins, which have been made for the purpose of cultivating land the fee simple of which must have been expended in their erection and which will never produce corn more than sufficient to feed the horses that are employed in ploughing it. A ring fence and a shepherd's house would have answered a better purpose'.

Its fate was brutally simple, in 1836 it ceased to be an independent holding, but even to-day its buildings stand reminders of misplaced investment.

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(1) P.R.O. Adm.80/18. John Grey's Journal entry for June 22nd 1833.

Whatever pity John Grey may have felt for the tenants of 'the Shire' nothing could give them adequate protection from the economic blizzard that hit them in the mid 1830s.

> 'I returned to Corbridge with a feeling of commiseration for the poor tenants of that high and remote district. They are certainly an industrious, frugal and sober race, but poverty cramps all their exertions and forces them to reckon upon every trifling economy in management rather than embrace any extensive and efficient system of improvement.' (1)

The history of rents in these parts between 1815 and 1850 can be simply told by taking what by 1850 was one of the farms. In 1809 the two farms of Aydon Shield and Myrehouse had been separately let at £182 and £145 per annum respectively and had remained at those figures till 1830, albeit under protest. In 1835 a new tenant was found to take on both farms as a joint concern at a rent for the two of only £205, and fifteen years later this same tenant added Salmon Field farm let from 1811 at £274 and from 1836 at £170. The rent paid for this united holding in 1850 of £420 contrasts with £701 paid during and after the war. What is significant is that hardly any important fall in rents took place before 1830, the leases agreed in 1809 being continued their full twenty-one year term. The collapse is concentrated into the years after 1830, but even so meant that by 1850 rents were below 60% of the war-time figures. This fall is registered despite the fact that, as already seen, the actual increases during the war were rather smaller in this area than elsewhere.

This same pattern of very marked declines is also found on the Beaumont farms near Dukesfield and Slaley, and also at Westburnhope, where, for example, the 1850 rent was barely 62% of the war-time figure, despite

(1) P.R.O. Adm.80/18. John Grey's Journal entry for June 22nd 1833.

the fact that it was noted that the'place has been much reclaimed and improved by the tenant'. This 62% is of the highest known rent (that for the years 1807 to after 1810) but there is no evidence for the years from 1810 till 1818, so it may well be that the decline was even more than indicated.

On the Yarridge estate the decline from the rents agreed in the leases of 1814 was also to about 60%, but on the basis of the figures fixed in 1803 it was only to between 80% and 90%, and therefore it may be that the decline elsewhere was even more pronounced than the 62% at Westburnhope would suggest. An interesting feature among the Yarridge farms is that, although John Kaye should in 1857 consider 'hardly worth cultivating as arable land', there had in fact been no marked decline in the arable acreage since 1811. This contrasts with a very large reduction in the tillage lands at Dukesfield, Coalpits and Slaley by that date.

In examining the Coastley farms the pattern (as suggested above on page 306) is governed by the size of the war-time increases. Where these had been of the order of 150% and above, the post-war reduction was to between 50% and 65% of those war-time figures. Where no such large increase had occurred during the war the reductions were small, not exceeding 25% by 1850. A comparison of the Coastley and Yarridge farms shows that whatever happened during the war, the 1850 rents were in every case between 20% and 30% above the rents paid in 1800. The size of the decline during the post-war period was, therefore, entirely governed by the size of the increases during the war. In view of the very much greater war-time increases on those farms where the post-war decrease was

similar to the Hexhamshire farms, it would appear that the closure of Dukesfield Lead Mill had much less effect at Coastley than near the Mill, and consequently the change in rents between 1800 and 1850 was very different.

In view of this overwhelming evidence for declining rents it is surprising to find that that at Newlands and Whittonstall fell overall only very slightly, and on some farms the 1850 rent was actually higher than that being paid after 1809. There is a simple reason for this - the enclosure of the common 'out pasture' between 1811 and 1820. On this the Hospital spent no less than £8,500 and its effects were exclusively felt during the post-war period. To this, one or two other factors may be added which contributed towards the stability or increase in rents. The tenants of this estate were, in John Grey's words, 'as a body the best farmers on the property..... experience teaching them that poor soils unless well cultivated will yield no produce', and there is a marked absence of turnover of tenants here as compared with the rest of the Hospital's property. The closing of the Dukesfield Mill for these farmers had the effect of temporarily increasing the flow of lead through their district, and the opening up of Grey Mare Hill Colliery after 1834 provided them for the first time with ample and conveniently situated quantities of lime. These various factors - in particular the common enclosure - are sufficient to account for the 'abnormality' present on these farms.

In brief then, the post-war period saw a decline in the farms within a few miles of Dukesfield, which, though concentrated in time to after 1830, was extremely severe, and resulted in the abandonment of a number of small holdings, and a decline in rent to between 50% and 60% of the war-

time figure by 1850. On the farms nearer Hexham similar overall declines occurred, but in their cases these followed spectacular war-time increases and in the absence of such war-time excesses the decline was much less marked, being to 80% of the war-time figure. Lastly at Newlands and Whittonstall special conditions, notably the common enclosure, meant that the decline was either very small or that a small increase took place.

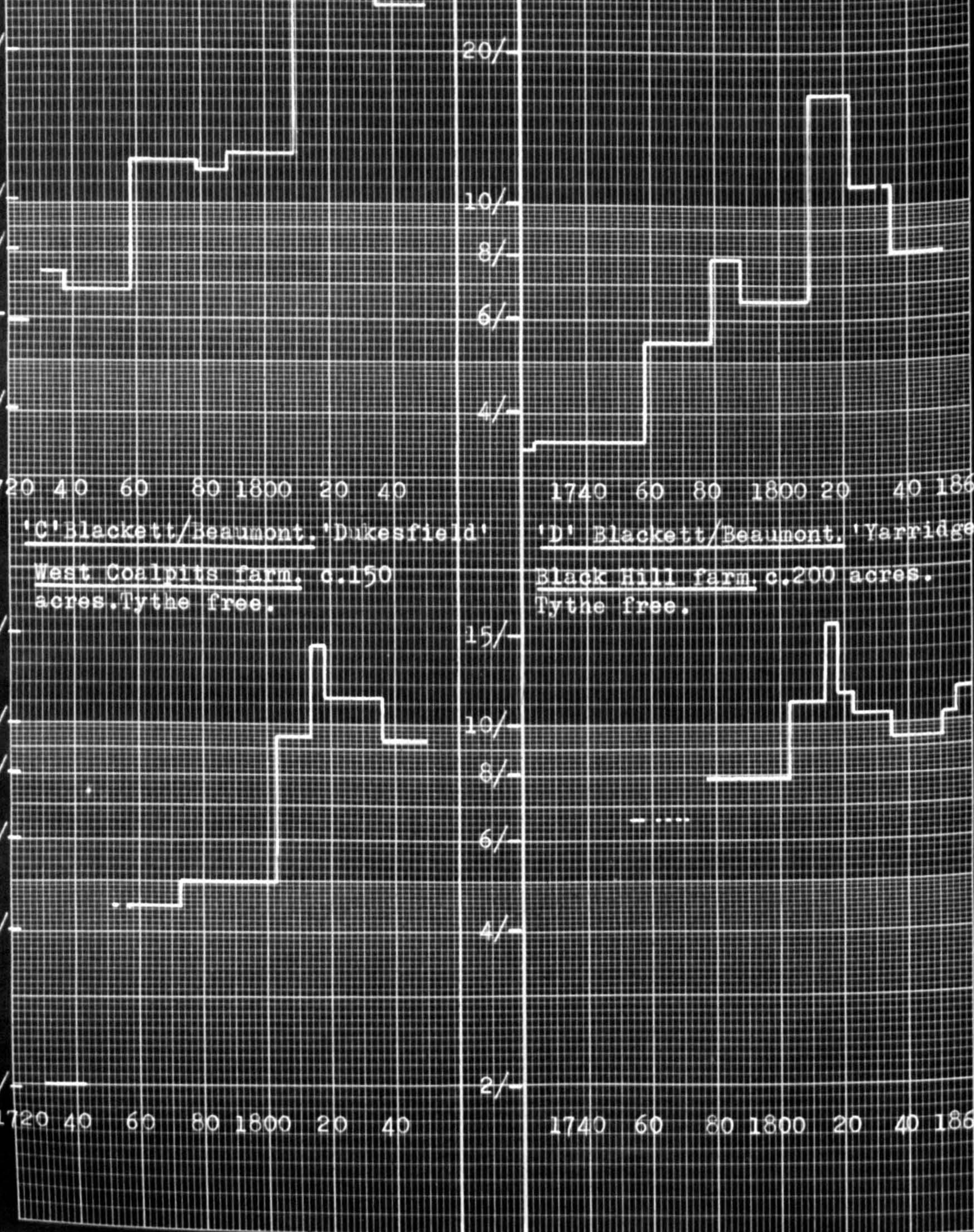
HEXHAMSHIRE/WHITTONSTALL DISTRICT.

'A' Greenwich Hospital
'Coastley estate'

Highwood farm; 175 acres.
Liable to tythe

'B' Greenwich Hospital
'Coastley Estate'

Longhope farm; 190 acres to 1779, 250 acres post 1779.
Tythe free on 175 acres.



'C' Blackett/Beaumont. 'Dukesfield'

West Coalpits farm, c.150 acres. Tythe free.

'D' Blackett/Beaumont. 'Yarridge'

Black Hill farm. c.200 acres.
Tythe free.

The Hexhamshire/Whittonstall District: Summary 1700/1850

A series of rent indices based on the rent per acre in 1760 has only limited value in this district, since, for a number of reasons, such as common allotments or the 'regularization' of holdings, there are very considerable changes in the size and average quality of land on most of the farms. The rent per acre for the old enclosed land of a farm with extensive but vague grazing rights over common moorland cannot be compared with the rent per acre of the same farm when the same grazing rights have been converted into an exact number of acres and the total rent does not distinguish between the old enclosed and the newly allotted lands.

Four exceptions to this general condition are illustrated in the graphs opposite. The two farms at the top belonged to Greenwich Hospital and the lower pair to the Blackett/Beaumont families. Highwood ('A'), Longhope ('B') and Black Hill ('D') all lay in the north of the district near Yarridge and Coastley and were largely unaffected by the lead carriage trade. The fourth farm - West Coalpits ('C') - was further to the south and east, and the successive tenants there were extensively engaged in lead carriage from Dukesfield Mill. The rent indices for these farms are given in this table:-

Hexhamshire/Whittonstall District: Rent indices 1720-1850.

Date	'A'	'B'	'C'	'D'	Date	'A'	'B'	'C'	'D'
1720	49	62	?	?	1800	102	116	111	118
1740	56	65	46	?	1810	286	298	208	164
1760/70	100	100	100	100	1814	286	298	320	232
1780	96	142	111	118	1820	254	298	249	170
1790	102	116	111	118	1830	?	198	249	155
					1840/50	200	145	205	140

From these index figures it becomes apparent that, despite the fact that

GREENWICH HOSPITAL ESTATE.

'E' Newlands & Whittonstall.

Newlands Haugh farm.
c.90 acres pre 1809
150 acres 1809-35
330 acres post 1835.
Liable to tythe.

'F' Whittonstall Hall farm.
c.200 acres pre 1809
c.250 acres post 1809
Liable to tythe.

'G' Newlands South farm.
c.180 acre pre 1779
c.200 acres post 1779
Liable to tythe

'H' Whittonstall 'Lawson's' farm.
c.93 acres 1737-1758
c.200 acres 1758-1809
c.300 acres post 1809
Liable to tythe

40/- 30/- 20/- 10/- 8/- 6/- 5/- 4/- 3/- 2/-

1720 40 60 80 1800 20 40 1740 60 80 1800 20 40 1860

the rent per acre at Highwood farm was at least twice as much as on the other farms during the 19th century, the index figures are comparable. The index for West Coalpits illustrates the difficulties of using an index based on any single year, since it is beyond doubt the case that at least prior to 1803 the rent was not a reflection of its real value. It is this fact that makes the high figure of 320 in 1814 and the subsequent ones too high. It is more significant that the rent agreed following the valuation in 1802/3 was almost identical with that being paid after 1836, while at Black Hill, although there was a revival during the 1850s which produced a similar result, after 1835 the rent was only 86% of the 1802/3 valuation. The most striking fact about the rent changes on the two Greenwich farms ('A' & 'B') is the very great increases in 1809 of 176% and 154% respectively. At West Coalpits the same sort of increase occurred in two phases (1803 and 1814), but there, as already suggested, the unrealistic rent prior to 1803 rather than anything else is responsible, while at Black Hill the increase from a true economic rent at these two dates amounted to less than 100% altogether. The graph of Longhope ('B') gives a very clear example of the temporary increases recorded in 1779, which the lower prosperity of the 1780s was unable to maintain, but at Highwood the pattern is quite different and there is no evidence which can be used to suggest the reason.

For the other farms in this district, although graphs of the rents being paid per acre are given, the index figures will not normally be given for the reasons suggested above. The four farms illustrated opposite are all on the Greenwich Hospital's Newlands and Whittonstall estate, and for only one of them - Newlands South farm ('G') is the

continuity of size sufficient to allow an index to be used. For all four, however, the most important feature of the graph is the size of the increase in 1779, being approximately 100% in three of the four cases, while even on the fourth farm ('G') a similar size of increase had been achieved by 1790. The petition of the tenants in 1781, which stated that they had no methods of consequence for making their rents other than cattle breeding, oats, barley and the lead wain, does not suggest that these increases were the result of any major change in farming techniques such as produced similar increases among the Tyne valley farms. The spreading out of the coal mining centres away from Newcastle up the Derwent valley provided these farms with an expanding market which had the disadvantage that it was subject to considerable fluctuations. This, allied to the increase in lead carriage, would seem to be the cause of this localized great increase between 1775 and 1790, rather than anything else. The graphs, except that of Newlands South farm, fail to show the post-war peculiarity of this area when rents, far from falling, in many cases increased. The index figures for this particular farm are given in tabular form:

Newlands South Farm Rent Index 1737-1850

Period	Index
1737-1758	90
1758-1779	100
1779-1788	120
1788-1809	190
1809-1830	250
1836-1860	290

The last point to note for this estate is that between 1716, when there was still communal cultivation, and 1758, when the regularization of the holdings had been virtually completed, the rent rose from £380 to £810. However, one may have sentimental regrets at the 'decay' of the village

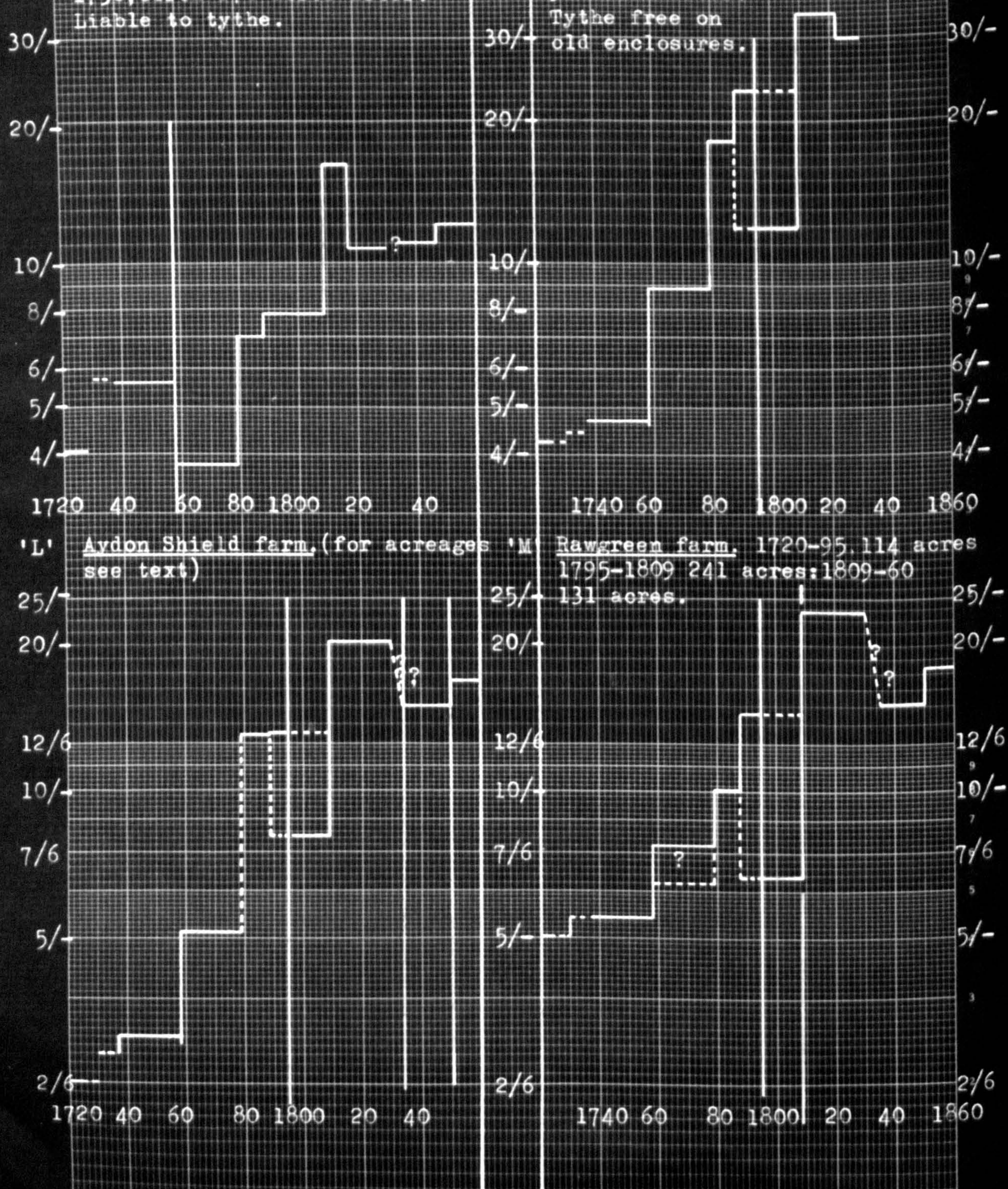
GREENWICH HOSPITAL ESTATE.

Wooley & Hexhamshire.

N.B. The figures for rents per acre of these farms are affected considerably by increases in acreages following common divisions.

'J' Wooley farm. 135 acres pre division of Bolbeck Common in 1758, circa 270 acres after. Liable to tythe.

'K' Myrehouse farm. 50 acres pre 1795 (Hexham common division) 90 acres after. Tythe free on old enclosures.



'L' Aydon Shield farm. (for acreages see text)

'M' Rawgreen farm. 1720-95. 114 acres 1795-1809 241 acres: 1809-60 131 acres.

community the hard economic advantages to the landlord were clearly considerable.

For the other farms in this district by far the most important factor in determining rents was the presence of Dukesfield Lead Mill and the non-agricultural incomes that were derived from the carriage of ore to that mill, or lead pieces from it. The four farms illustrated in the graphs opposite were all to greater or lesser extents affected by this, but their size so changed that no index figures can be given. Only in the one case of Wooley farm ('J') were these changes sufficiently few to make an index realistic.

Wooley Farm. Rent index. 1716-1850.

Period	Rent per acre	Index	Notes
c.1716	4/-		for 135 acres old enclosure
1737-1758	5/8		ditto.
1758-1779	3/9¾	100	270 acres including allotments from Bolbec Common
1779-1788	7/-	184	
1788-1809	7/9	206	
1809-1817	16/3	426	N.B.Some of the poorer land is taken for woodland planting c.1800, reducing the effective land to 235 by 1850.
1817-1830	10/8	282	
1834-1846	11/-	290	
1846-1862	12/-	316	
(1862-1877	17/6	461)	

On this farm, as on the other three, there is again the very considerable increases in the rent in 1779/1788, which owed little to changing agricultural values, but were the result of the great expansion in the lead carriage earnings. The doubling of the quantity of lead smelted at Dukesfield alone enabled the increased rents to be paid and made realistic by 1780 a rent of 18/- per acre at a farm like Myrehouse, nearly 600 ft. above sea level.

Between 1788 and 1809 the enclosure of the Hexhamshire High Quarter commons in 1795 virtually doubled the size of most of the farms, but it is significant that no change occurred in the rents, so that, for example, the per acre figure for Myrehouse prior to 1795 was 23/-, but, although no actual change took place in the total rent, the per acre figure then dropped to under 12/-. On the basis of these latter figures the increases in 1809 were very considerable, ranging from 150% at Aydon Shield, to nearly 250% at Rawgreen. This latter farm is a good example of the difficulties of comparing rents, where changes took place in the size of a farm. From 1788 to 1809 there were two holdings with a joint rent of £81.16. 0. p.a., and when the lease was entered the land consisted of some 114 acres, but after 1795 there were added 127 acres of common allotments. These allotments lay at least two miles from the old enclosures, but if they are taken into account the rent per acre 'fell' in 1795 from nearly 14/6 to 6/9. When the farms were re-let in 1809 the two holdings were united into one, a small portion of some 20 acres of old enclosed land added and the whole of the new common allotments taken away. The resulting farm, containing about 130 acres, was then let at £155, equivalent to 23/4d per acre. In this case, therefore, the realistic comparison is with the rent per acre, prior to 1795, of 14/6d rather than the 6/9d, and on that basis the increase in 1809 was not 250% but only about 60%. Detailed examinations of the other farms reveal that these smaller percentages are more realistic, and this is confirmed by the fact that the total increase for the whole of the Hexhamshire estate was only some 80% in 1809. The smallness of this can be accounted for by the unattractive nature of this district climatically and the fact that at the time when

tenders were being asked for the lead trade was severely depressed.

The post-war period is chiefly remarkable for the facts that rents remained surprisingly stable till 1830, but after that the closing of the Dukesfield Mill in 1834 they declined very sharply. This decline, coming as it did after comparatively small increases during the war period, meant that by 1850 the rents of many of these farms were very little different from the figures agreed in 1788. The removal of the 'artificial' stimulant of the lead mill also resulted in the amalgamation of a large number of these holdings into bigger farms, as a result of which the seventeen holdings prior to 1809 had been reduced to seven by 1851.

In this district as a whole where only agricultural value is entailed in the rents, the pattern of change is not significantly different from that in the Matfen district, when allowance has been made for the short-term differences resulting from different ownership. The presence of over-optimistic rents circa 1780 was followed by a slight decline by 1790. During the war period increases of between 100% and 200% took place, with a suggestion that there was again a close correlation between the land quality and the size of the increases. The size of the war-time increases seem in every case to govern the size of the post-war decline, with it being most pronounced on those farms where considerable increases had taken place.

The number of farms for which the agricultural value was the all important factor in determining rents was none the less few, and for this reason the course of rents on the estates near Dukesfield Lead Mill cannot be taken as representing the 'normal' pattern for other farms anywhere else. Even at Newlands and Whittonstall lead carriage played an important

but indeterminable part in the rent paid. On this estate the most interesting evidence is for the economic advantages to the landlord from the abandonment of communal farming by the village community, and its replacement by individually controlled larger farms.

The Corbridge/Hexham Area: Conclusions.

On the basis of this detailed study it is now necessary to produce a series of simple and general conclusions which can be compared first with the results obtained for the North Northumberland area and then (in Section IV, part 3) with the South-West area.

Three crucial points emerge which may well be applicable to studies of rent throughout the country. The first of these is obvious enough, that since the rent of any farm was considerably influenced by the landlord's policy, it is essential that details of such policy should be fully understood. Clearly a rent fixed as a result of public advertisement and the highest tender is going to be very different from that agreed in private between a sitting tenant and his landlord or agent.

The second point is less obvious. Only where detailed study farm by farm can be undertaken is there any possibility of distinguishing between the 'normal' and the 'abnormal'. In part this is also possible only where a large number of farms can be examined in detail, the greater the size of the sample - ceteris paribus - the firmer based will any conclusions be. Of prime importance among the details needed for the farms to be examined is some indication of cropping.

The third major point is perhaps the least expected - that even within very restricted geographical areas very different rental patterns may emerge. The effect of soil quality on the rent per acre of a group of farms at any single date would obviously be very great. What is less expected is that such differences in quality should produce important effects in the timing as well as the size of changes. That the rent per

acre in say 1730 of one farm was twice as high as another is no basis for assuming that it would still be twice as high in 1780; on the contrary, the evidence would suggest that it would be considerably more than twice as high. Only by close attention to localized factors can any sound basis for rental study be found. The historian who failed to take into account the presence of the Dukesfield Lead Mill, for example, would come to entirely erroneous conclusions as to the causes for the rental pattern of the farms thereabouts.

Within the Corbridge/Hexham area, the effect of landlord policy is very obvious when the rental patterns for the Beaumont estates (where, except for the years following 1755, leases were virtually unknown for longer than nine years and no farms were advertized for letting by tender) are compared with those of Greenwich Hospital (where by law all farms had to be advertized and let to the highest bidder and the term was normally twenty-one years). On the Blackett of Matfen estates the unwillingness to apply advertisements to the re-letting of all the farms between 1795 and 1815 can be seen to have resulted in variations in the size of the rent increases.

In determining what shall be considered as 'normal',discretionary judgement must be allowed since there is never available all the evidence by which judgement could be replaced by incontrovertible evidence. There would be no advantage in replacing the upper and lower limits suggested for the rents of types of farms at various dates by a single 'average' arithmetically derived from the details for the farms studied. What must be borne in mind is that even though the limits that will be suggested are wide, the scope for 'abnormality' is limitless, the landlord was

perfectly at liberty to leave a farm at a purely nominal rent if he so chose and it is unlikely that the tenant would raise any objections.

The first type of farm to be considered is the rich Tyne valley 'haugh' farm, consisting predominantly of only the best quality land suitable for corn and turnip cultivation. Among the Greenwich farms the rent per acre for such land circa 1716 seems to have been between 5/- and 7/-, and a century later a similar range of rent existed, though by then the actual figures were ten times as much at between 50/- and 70/- per acre. The one farm on the Beaumont estate with comparable land never rose above 35/- per acre. In this case there can be little doubt but that the Beaumont farm was 'abnormal', being let below its full value. The stages by which this enormous increase was affected were approximately these. By 1735 the rent had risen by some 20% to 30% and then stood between 6/6 and 9/- per acre, and there was a slight further increase when the farms were let for twenty-one years in 1737, as a result of which rents of over 10/- were not uncommon. Following the re-letting of 1758, rents were raised to about double the figures being paid in 1716, varying between 10/- and 15/- according to the proportions of less fertile land attached to the various farms.

After 1760 the pace of change increased, with a further doubling by 1790 being very common. Thus, even before the outbreak of the Revolutionary wars, rents were frequently four times the figure they had been in 1716. At the next letting in 1809 the full force of the war-time inflation was felt, and increases of over 150% were universal, and ones of over 200% far from uncommon. From these high rents the post-war decline was usually severe, with a decline in the lease rent frequently coinciding

with periods of acute depression such as 1817, 1822/3 and 1834/5. Where rents of 70/- had been paid after 1809, in 1850 the figures were between 45/- and 50/-, and where they had been about 55/- the decline was to about 35/-. As a result of these declines the overall increase in rents between 1716 and 1850 was approximately five fold, of which four-fifths had been achieved before 1790. In round figures the index for rents of farms of this sort therefore would be as follows on the basis of the 1760 figure being 100.

Tyne valley farms: Rent index 1700-1850. (100 equal to between 10/- and 15/- per acre: the rent in 1760)

Date	Index	Date	Index
1716	50	1810	500 to 550
1735	60 to 65	1820	(550)to 450
1740/50	60 to 70	1830	450 to 400
1760/70	100	1840	250 to 350
1780	150 to 200	1850	250 to 350
1790/1800	180 to 220		

It must, of course, be remembered that the possibility of variations from these figures was considerable, particularly as a result of landlord policy (as at Anick Grange belonging to the Blackett/Beaumont family) or a lease remaining in force after it had ceased to reflect changes in land values.

For the farms consisting of rather less fertile soil which were still capable of corn and turnip cultivation, rather modified patterns emerge. The gradations from the best quality soil near the river to the marginal land scarcely suitable for tillage are clearly enormous and are in turn reflected in the rent patterns. For simplicity they can be roughly divided into three groups according to the maximum rents paid for them circa 1810 to 1815. The first group consists of those whose highest rent

was between 30/- and 40/- per acre, the second those which paid between 20/- and 30/- per acre, and the last group those paying between 10/- and 20/-.

The first of these groups were farms on what might be called "Good Medium Quality Land", and the most obvious difference between them and the Tyne valley farms is that whereas the increase on the latter in the 100 years from circa 1715 was tenfold, on these it was less than eightfold. At the beginning of the 18th century, rents of between 4/- and 7/- were being paid for these farms, so that then there is little to distinguish them from the best lands. By 1760 the distinction is clearer, with these farms paying between 8/- and 12/- per acre as against the 10/- to 15/- for the best land, but even so at this latter figure they were still both about double what they had been in 1715. The only important difference between those dates was that on the higher rented ones among the "Good Medium" ones the depression of rents in the late 1720s and early 1730s is noticeable to a greater extent than among the Tyne valley ones.

The crucial differences occurred between 1760 and 1790 when, instead of doubling, the increase on these farms was about 50%. As a result of this, rents circa 1790 were between 12/- and 18/-, so that even had the war-time increase been proportionately the same, the overall result would have been very different. In fact, the war-time increases on these farms were rather lower, being between 100% and 150% as against 150% to 200% to the maximum of between 30/- and 40/-.

In general, the post-war decline in rents on these farms was less pronounced, and by 1850 the range of between 20/- and 28/- per acre represented the same five-fold increase during the previous 150 years.

The difference between the two sorts of farms is largely one of timing, for, whereas on the valley farms four-fifths of the total had been achieved by 1790, here it was only three-fifths and the remainder was the result of smaller falls in rent after 1815, following smaller advances during the war. In round figures the rent index for this type of farm is as follows:-

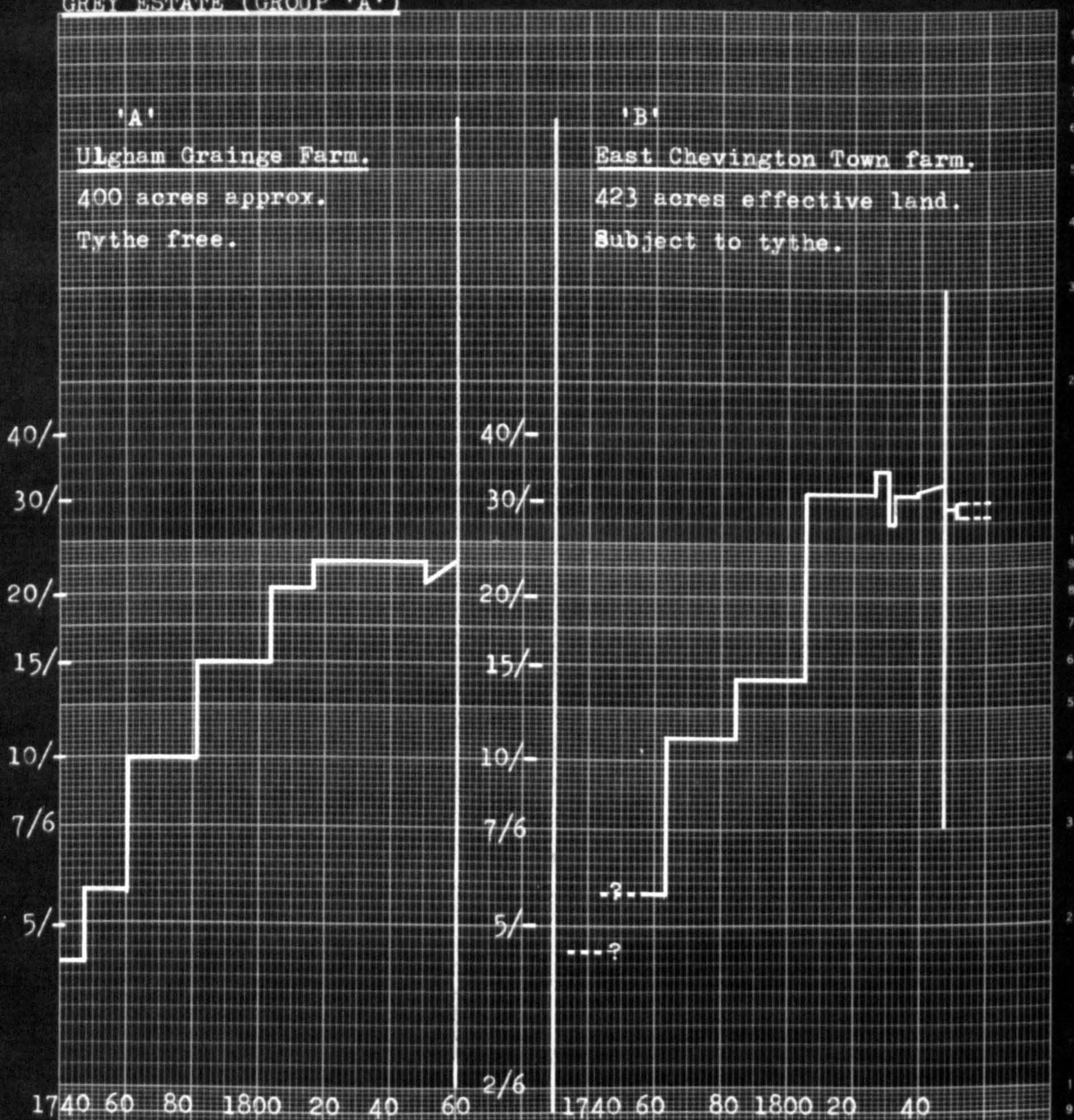
'Good Medium Quality' Farms in the Corbridge/Hexham Area: Rent Index (100 equal to between 8/-and 12/-per acre:the rent in 1760) 1700-1850

Date	Index	Date	Index
1716	50 to 60	1800	160 to 250 (a)
1730	60 to 75	1810	320 to 370 (a)
1740	60 to 70	1820	280 to 300
1750	70 to 80	1830	270 to 300
1760	100	1840	240 to 280
1770	100 to 110	1850	240 to 280
1780	130 to 150		
1790	140 to 150		

(a) These figures apply only to those farms where new leases had been agreed in the previous decade.

In the next group of farms this same basic difference consequent on soil quality is accentuated, but the evidence does not allow their history prior to 1760 to be ascertained. By that date their rents were between 7/- and 10/-, and in the two or three instances where they can be traced further back this was again about double what it had been in 1716. In the thirty years from 1760 the increases were only small, so that by 1790 the rents were still only between 10/- and 12/-. During the war these figures were approximately doubled, while after 1815 they declined abruptly, till, by 1820, they had reached about the same level as they were to have in 1850 of between 14/- and 18/-. The index figures for this group after 1760 are therefore as follows:-

GREY ESTATE (GROUP 'A')



N.B. In 1847 the Earl Grey assumed responsibility for paying the tythes, commuted @ £100 p.a.
The rent after 1853 varied with the price of wheat.

'Fair Medium Quality' Farms in the Corbridge/Hexham Area: Rent Index 1760-1850

(100 equal to 7/- to 10/- per acre; the rent in 1760)

Date	Index	Date	Index
1760	100	1800	150 to 200
1770	100 to 105	1810	250 to 300
1780	110 to 125	1820	180 to 220
1790	120 to 130	1830	180 to 210
		1840/50	170 to 200

The last group of farms on land that was frequently only just suitable for arable farming behaved in essentials in an identical manner to those just examined. The rents of between 5/6 and 6/- per acre of 1760 were approximately twice the 1716-20 figures, and by 1850 they had risen to between 9/- and 12/-. There is one minor modification which may well result from nothing more than an accidental effect from a small sample. In some 40% of the farms in this group an increase of upwards of 80% was recorded between 1760 and 1790, while in the other 60% the increase never exceeded 25%. No consideration of ownership or previous value offers an explanation and the increases during the war period eliminated the differences that appeared as a result of it. The only factor which can be discovered to account for it is that new building (on those farms for which there is evidence) was very much greater between 1760 and 1790 precisely on those farms where the greater increase took place.

We can now compare the several rental patterns that have emerged in this area with the farms already examined in North Northumberland. For this I will use the same farms for which graphs (on two arithmetical axes) were given in Part 1 of this section, but to avoid constant back reference graphs for the same farms using a logarithmic scale will be repeated.(1)

(1) Page references will be given to the previous graphs so that they can be compared with these logarithmic ones.

GREY ESTATE (Group 'B').

'C'

Learmouth farm(s) 1708-98

2,600 acres

East Learmouth Farm post 1798

820 acres 1798-1819

945 acres 1819-1861

Part subject to tythe.

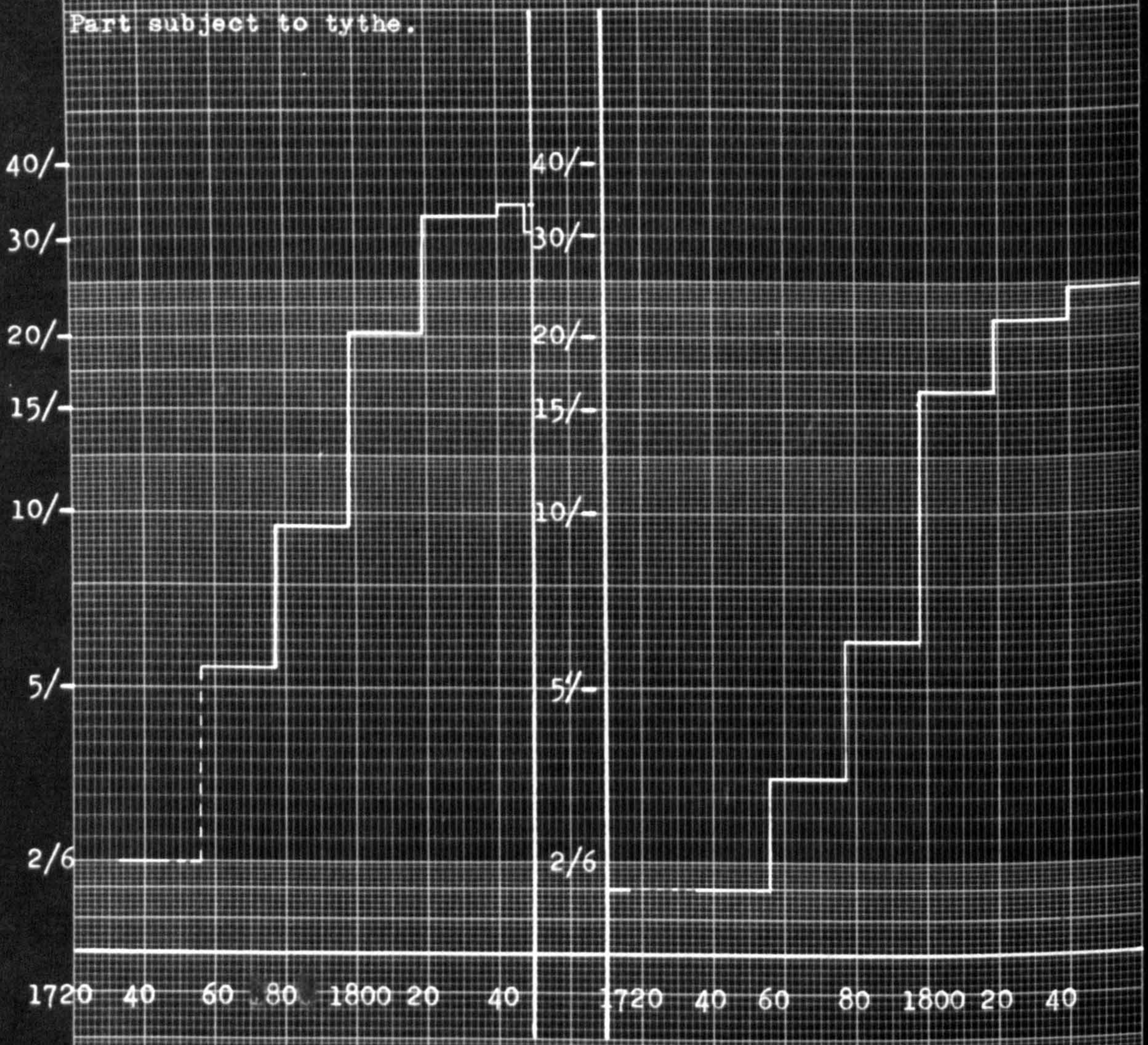
'D'

Downham farm

600 acres pre 1777

approx 700 acres after.

Subject to tythe



I will follow the same succession of farms as in Part 1, but where the repetition of a set of graphs would provide no new information they will not be included.

The first pair of farms illustrated ~~opposite~~ were both on the Grey estates, on rather heavy clay near Warkworth,[1] with East Chevington farm growing a greater proportion of corn than the other. The accident of timing of rent changes clearly had a profound effect on the index figures for the farms, so that they may well not be 'normal' in their rents at all times. Before giving the index figures it will be as well to introduce the two farms illustrated in this next graph.[2]

Learmouth and Downham farms were near Coldstream on some of the finest turnip soil in Northumberland and the much steeper increase in their rents is at once apparent. This becomes even clearer when the rent indices for the four farms are tabulated side by side.

North Northumberland: Grey Estates: Rent indices 1720-1850.

'A'	Ulgham Grange farm	100	10/- per acre	(Heavy clay land)
'B'	East Chevington	100	11/- per acre	
'C'	Learmouth farm	100	5/4 per acre	(largely good turnip land)
'D'	Downham farm	100	3/6 per acre	

Date	'A'	'B'	'C'	'D'
1740	43	52	47	64
1750	57	74	? 47	64
1760/70	100	100	100	100
1780	100	100	172	170
1790	148	127	172	170
1800	148	127	375	465
1810	202	275	375	465
1820	228	275	600	620
1830	228	305	600	620
1840/1850	228	275	620	700

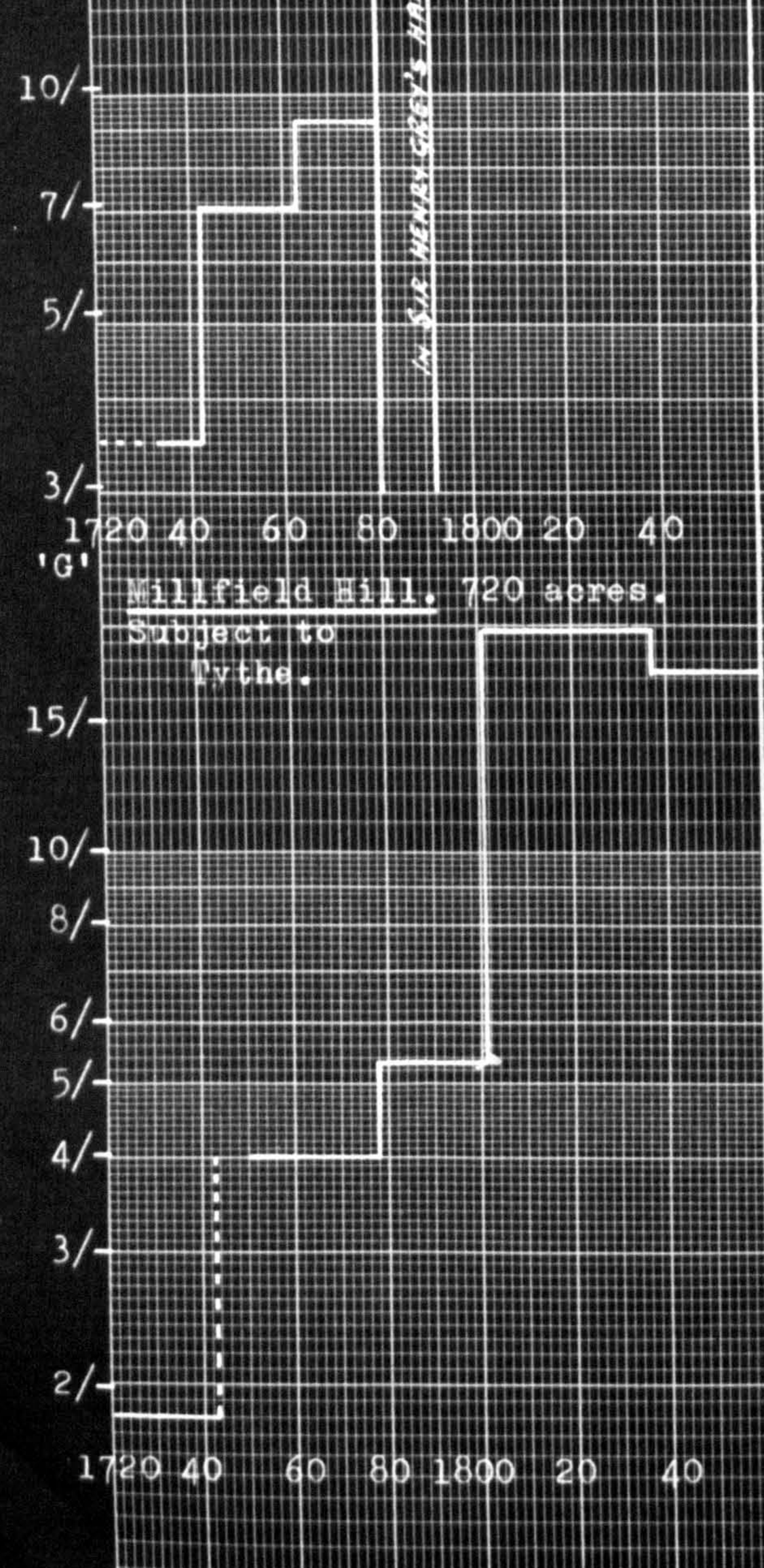
This very great difference in the indices results from the fact that the

(1) See page ~~7 of Section IV, Part 1~~. 180
(2) See page 185

NORTH NORTHUMBERLAND.

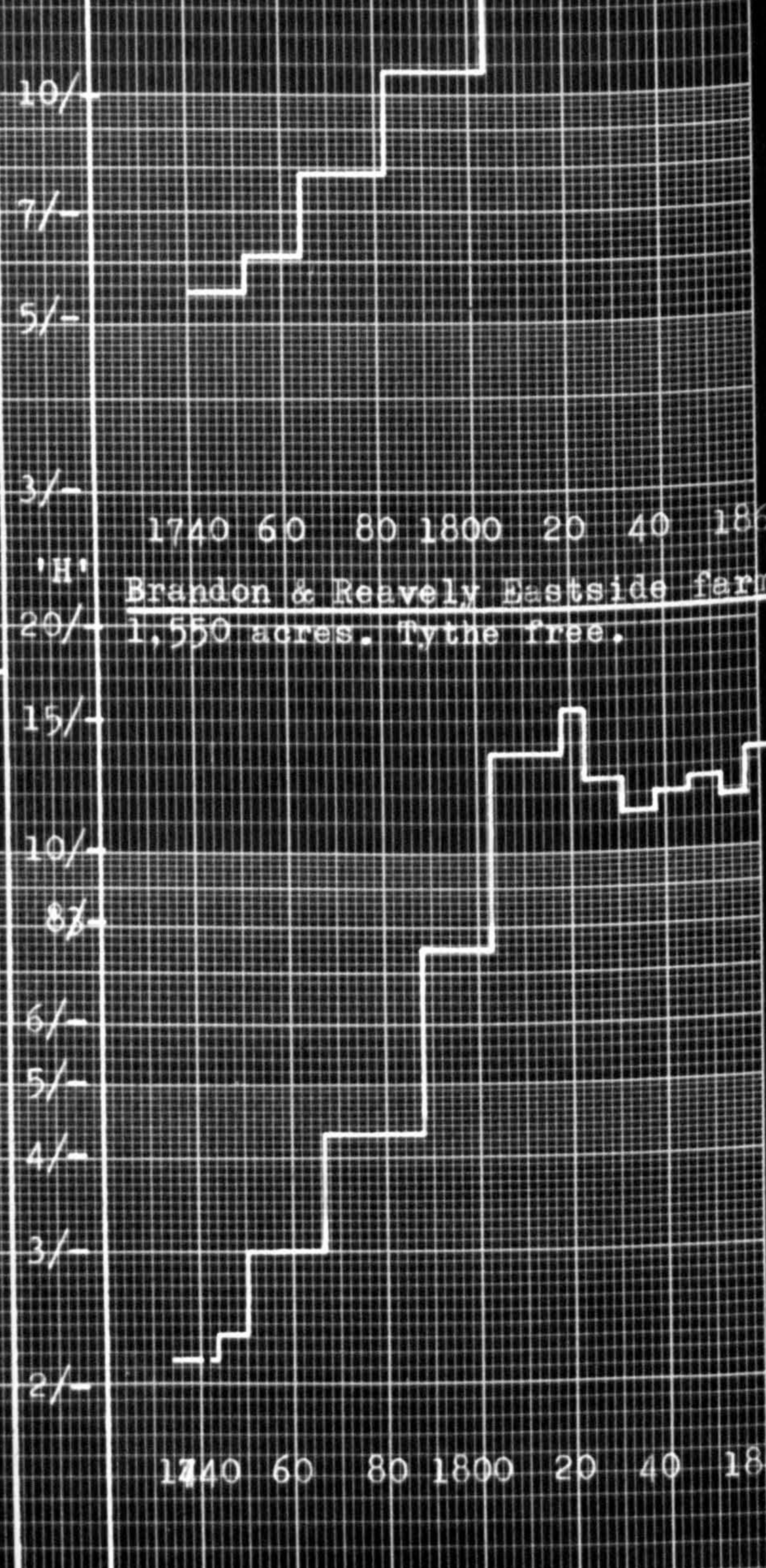
'E' Grey Estates.

Hawkhill farm. c.700 acres.
Subject to tythe.



'F' Allgood Estates.

Brandon Hill Head farm.
520 acres. Subject to tythe.



'G' Millfield Hill. 720 acres.
Subject to
Tythe.

'H' Brandon & Reavely Eastside farm.
1,550 acres. Tythe free.

base 100 on the two farms near Coldstream was so much lower than on the other two. One cannot say that they were grossly underlet at that date, but this does show that their type of land was considered of inferior quality in the mid-18th century, whereas a hundred years later it was carrying a similar rent. The first two farms, allowing for the accidents of timing of leases, correspond roughly to those near the Tyne, with Ulgham Grange fitting within the limits of the farms there which reached between 20/- and 30/-, and East Chevington within the 30/- to 40/- limits. There is nothing comparable with Learmouth and Downham near the Tyne. For these Tweedside farms an entirely new rent index is needed which would register the very low rents being paid per acre in the mid-18th century, the enormous increases between 1770 and 1820, and the absence of any considerable decline between 1820 and 1850.

How localised was this feature? The four graphs opposite show in the first place that it was not an accidental feature of the Grey estates, since, though modified, the rents of the two Allgood farms exhibit a similar pattern.(1) The farm at Hawkhill is important for showing that whereas circa 1740 it had been let at the sort of low rent per acre common on Tweedside it had been greatly increased in 1742, to the point that makes its subsequent pattern roughly comparable with the Tyneside farms. In this case the trebling of the rent between 1740 and 1763 is a unique feature which may well be important as illustrating the spread of improved husbandry from further south, thirty years before a similar process was to produce a similar result further north. The rent indices for these four farms show clearly that on the basis of 1760's rent three of them conform roughly to the Tweedside pattern rather than that of Tyneside, while the

(1) See p. 194

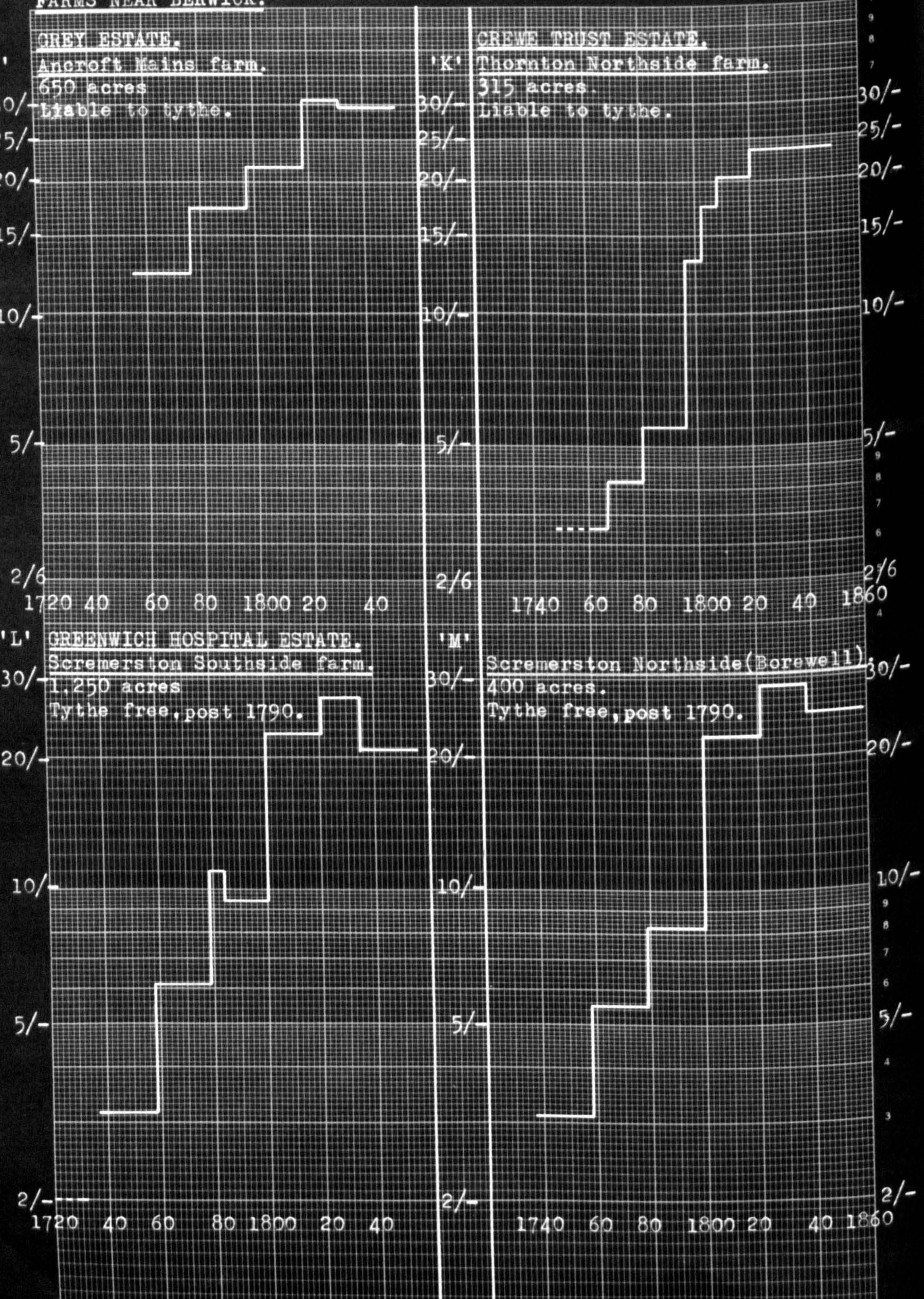
FARMS NEAR BERWICK.

'J' GREY ESTATE.
Ancroft Mains farm.
650 acres
Liable to tythe.

'K' CREWE TRUST ESTATE.
Thornton Northside farm.
315 acres.
Liable to tythe.

'L' GREENWICH HOSPITAL ESTATE.
Scremerston Southside farm.
1,250 acres
Tythe free, post 1790.

'M'
Scremerston Northside (Borewell)
400 acres.
Tythe free, post 1790.



fourth starting from a much higher rent is roughly similar to the latter.

North Northumberland: Grey and Allgood Estates. Rent Indices 1740-1850.

'E'	Hawkhill farm (Grey)	100	9/2 per acre
'F'	Brandon Hill Head (Allgood)	100	6/2 per acre
'G'	Millfield Hill (Grey)	100	4/- per acre
'H'	Brandon & Reavely East Side	100	3/- per acre

Date	'E'	'F'	'G'	'H'	Date	'E'	'F'	'G'	'H'
1740	38	87	44	78	1800	202	175	133	250
1750	78	87	100	100	1810	202	502	494	448
1760	100	100	100	100	1820	314	502	494	519
1770	100	128	100	144	1830	314	502	494	418
1780	-	128	133	144	1840	273	400	428	400
1790	-	175	133	250	1850	314	400	428	418

The four graphs opposite, for the farms near Berwick, show once again that the steepness of the rise in the second half of the 18th century is largely determined by the level of the rent per acre in 1760.(1) On the Crewe Trust and Greenwich Hospital estates they varied between 6/2 and 4/4, while at Ancroft Mains farm, belonging to Sir Henry Grey, it was 12/3. It may well not be an accident that in the rental of 1763 alone among the Grey tenants Richard Brown of Ancroft Mains and Edward Valentine of Ancroft Northside have their places of origin given and that in both cases they came from near Darlington. It is certainly significant that whereas at Scremerston the total rent increase between 1716 and 1760 for half the estate was only from £145 to £400, at Ancroft between 1708 and 1750 the increase was from £232 to £850. This fourfold increase was accompanied by the substitution of three holdings for the ten in 1708 and not one surname present at the earlier date as a tenant survived by 1770. Though the evidence is scanty it is very possible that what happened at Ancroft prior to 1750 was in large measure the same process as was to affect the neighbouring farms after 1770.

(1) See p. 201

North Northumberland: Farms near Berwick belonging to the Grey, Greenwich Hospital and Crewe Trustees Estates: Rent Index.

'J'	Ancroft Mains farm	(Grey)	100	12/3 per acre
'K'	Thornton Northside	(Crewe Trust)	100	4/4 per acre (a)
'L'	Scremerston Southside	(Greenwich)	100	6/2 per acre
'M'	Scremerston Borewell	(Greenwich)	100	5/7 per acre

Date	'J'	'K'	'L'	'M'	Date	'J'	'K'	'L'	'M'
1740/50	?	?	52	56	1800	174	308	374	400
1760	100	(78)	100	100	1810	174	495	374	400
1770	100	100	100	100	1820/1	250	532	450	520
1780	140	130	183	148	1830	250	532	400	520
1790	140	130	156	148	1840/50	240	532	347	450

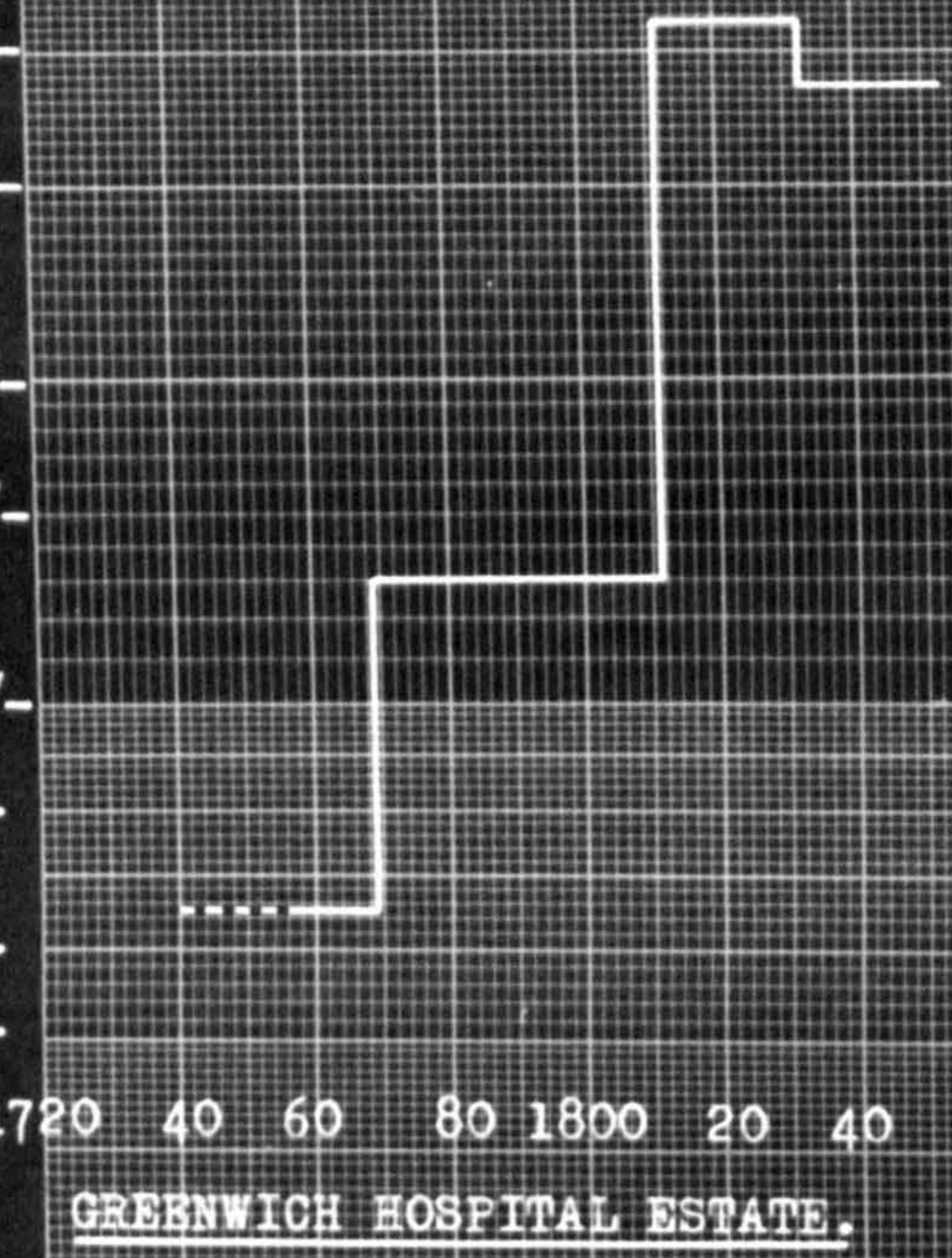
(a) The basis for this index is the rent fixed in 1767 rather than that payable before that date.

The only other point to emerge from these indices is that on the Greenwich farms there was a marked decline in rents after 1820, not present on the others. Near Bamburgh the picture is less clear, with rents circa 1760 varying between 4/- and 11/- for farms which sixty years later were to fetch between 30/- and 40/- irrespective of what they had been in 1760. Because of these variations in the bases for the indices they exhibit a graduated series from the Tweedside pattern to that found near Corbridge, the lower the rent in 1760 the nearer the farms conform to the Tweedside pattern. This holds true irrespective of who owned the particular farms, but there is some evidence to suggest that low rents in 1760 occurred where pastoral farming was predominant and that rents per acre increased from farm to farm as the proportion of arable land increased. Thus at Glororum, over half the farm was in tillage according to the lease of 1758-1779 when the rent was 10/- per acre, while at the next door farm of Burton, tillage land comprised less than one-tenth, and the rent was only 6/6. Unfortunately the evidence is insufficient to enable one to determine if this factor operated over the whole of this area, but it is noticeable

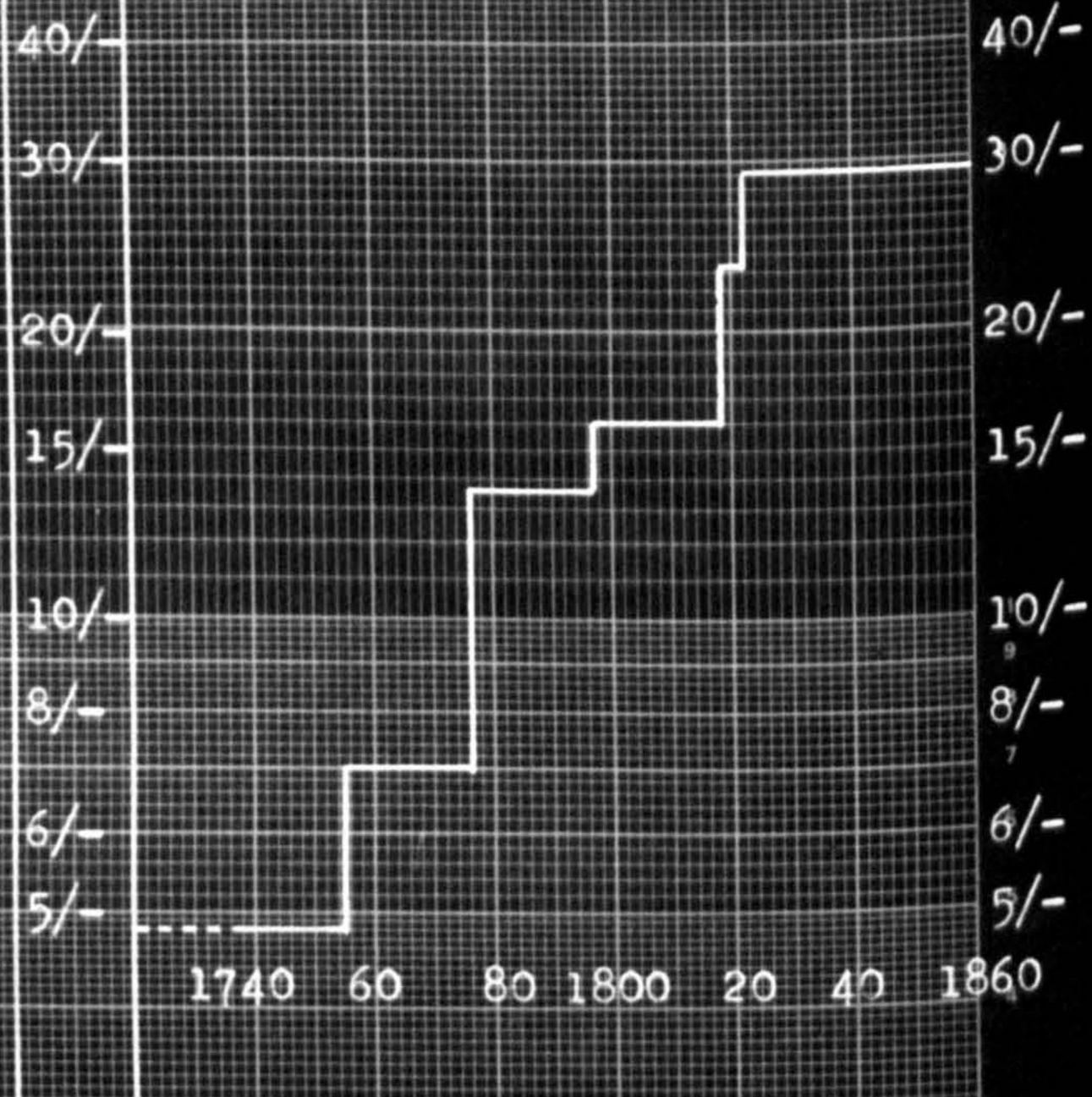
FARMS NEAR BAMBURGH.

GREY ESTATE.

'N' **Burton Farm.**
1,050 acres.
Liable to tythe.

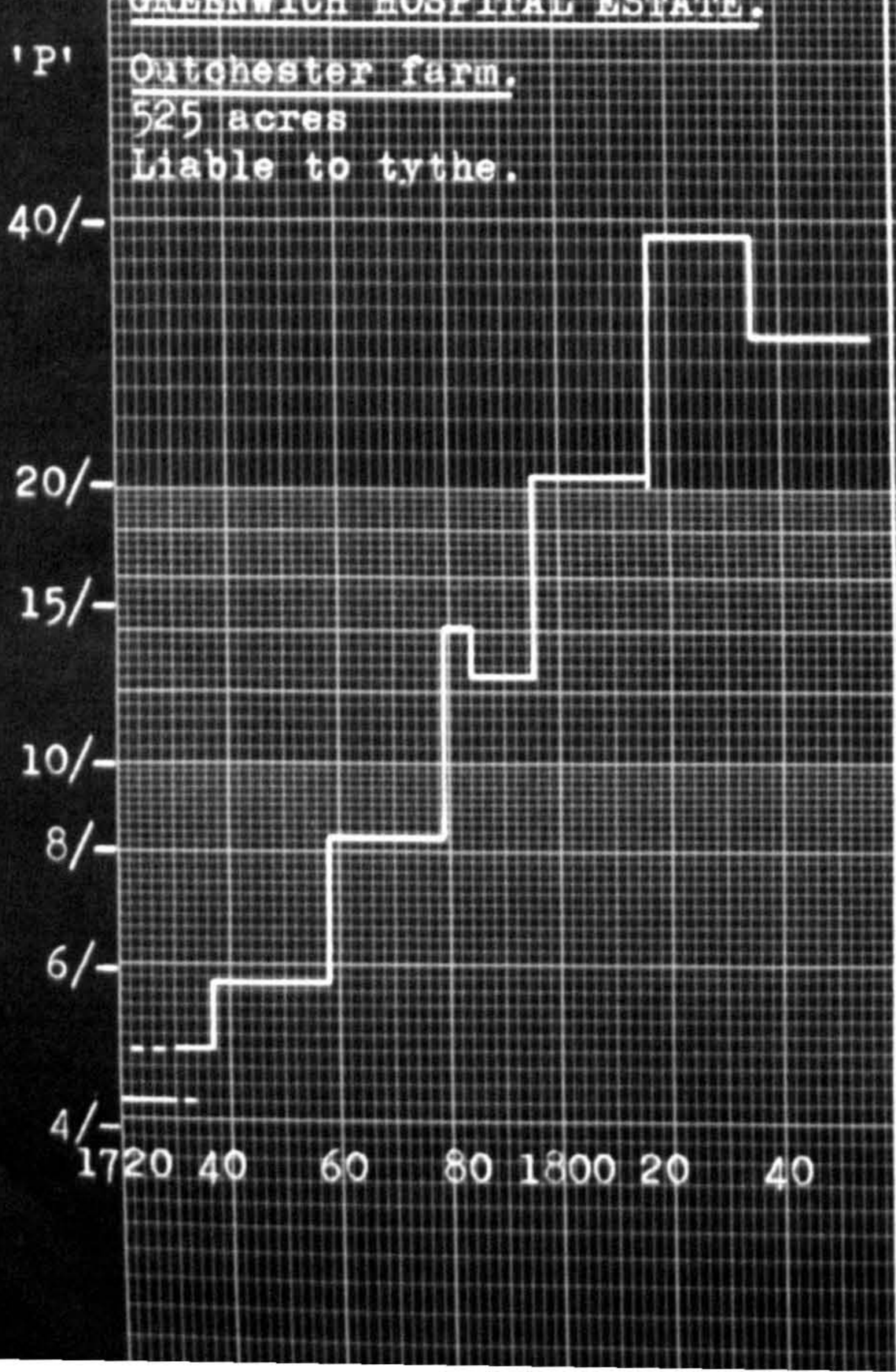


'O' **Bradford farm.**
540 acres.
Liable to tythe.

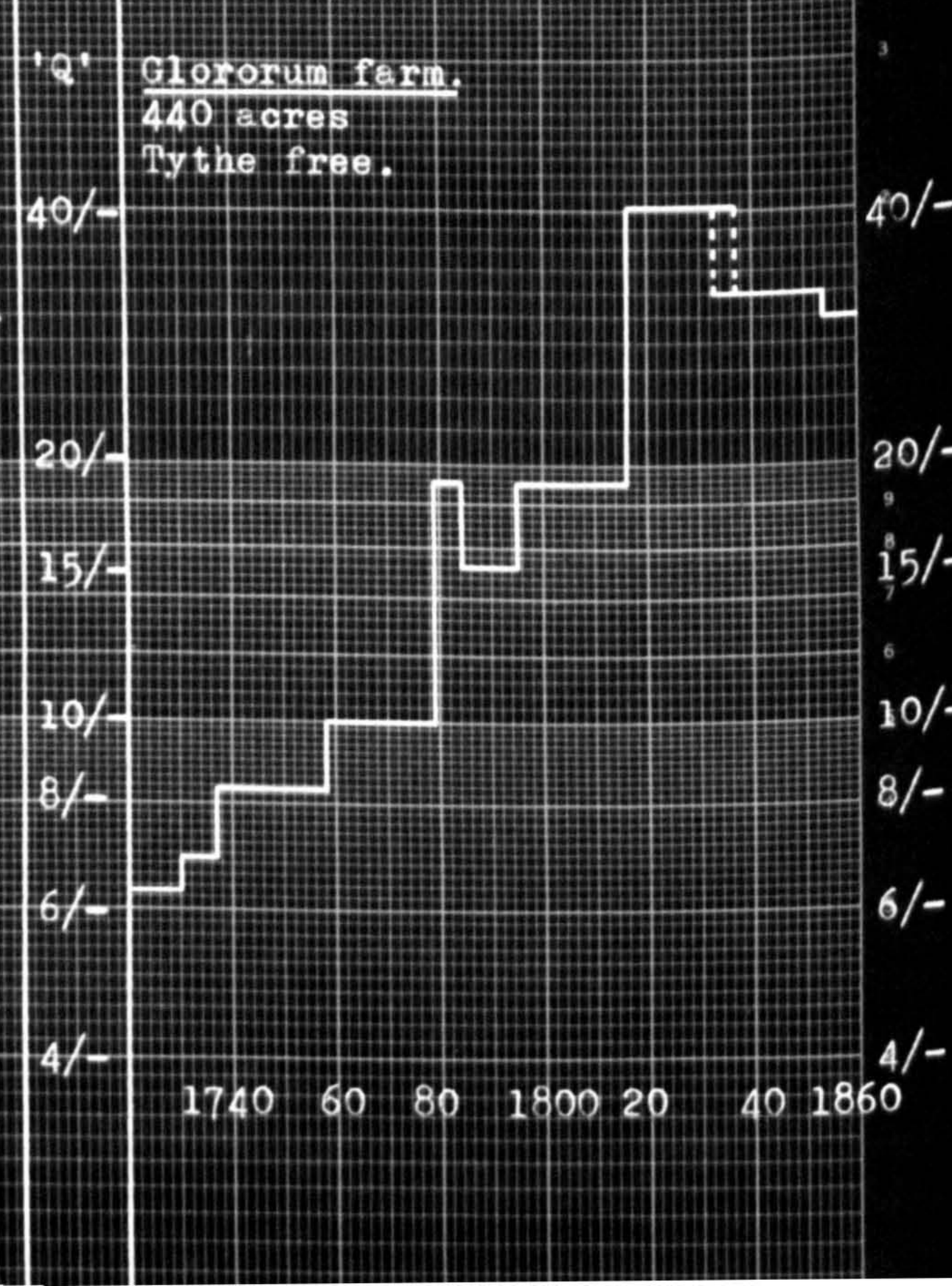


GREENWICH HOSPITAL ESTATE.

'P' **Outchester farm.**
525 acres
Liable to tythe.



'Q' **Glororum farm.**
440 acres
Tythe free.



that wherever tillage land was known to exceed some 40% of the farm the rent per acre was high.

The indices for the four farms illustrated opposite are given here and should be compared with those overleaf, which refer to four of the farms on the Crewe Trustees' estates whose graphs are also given. (1)

North Northumberland: Bamburgh District: Grey and Greenwich farms.
Rent Index 1700-1850.

'N'	Burton	(Grey)	100	6/6 per acre
'O'	Bradford	(Grey)	100	7/- per acre
'P'	Outchester	(Greenwich)	100	8/4 per acre
'Q'	Glororum	(Greenwich)	100	10/- per acre

Date	'N'	'D'	'P'	'Q'	Date	'N'	'D'	'P'	'Q'
1710/20	?	70	50	?	1800	200	229	247	189
1740/50	?	70	69	83	1810	200	229	247	189
1760	100	100	100	100	1820	656	340	467	404
1770	200	100	100	100	1830	656	402	467	390
1780	200	195	169	190	1840	571	402	354	322
1790	200	195	148	153	1850	571	402	354	299

Among the Crewe Trustees' farms there is no evidence prior to 1767, but most of the farms changed their rents at that date and the 'Old Rent' is given, which in all probability was that being paid circa 1760 and is used as the base for the indices. The difference between the shape of the graph for the 'Friars' farm ('S') and for Fleatham Northside is very striking, with the former only increasing by some 150% between 1795 and 1820, while the latter increased by over 500%. Here again there is a very marked difference in the rents prior to 1795 which was to disappear by 1820, and which can in part be explained by the proportions of corn grown on the several farms.

(1) See p. 204

NORTH NORTHUMBERLAND. CREWE TRUSTEES (Bamburgh)

'R'

Shoston: 430 acres (Liable to tythe for 310 acres)

'S'

Bamburgh 'Friars'

Not liable to tythe.

180 to 200 acres.

'T'

Sunderland Middle West farm.

60 acres; liable to tythe.

'U'

Fleatham 'Northside'.

270 acres to 1820, 215 acres post 1820: Tythe free.

North
Northumberland: Crewe Trustees' Estates (Bamburgh). Rent Index 1760-1850.(1)

'R'	Shoston farm	100	4/8 per acre
'S'	Bamburgh Friars' farm	100	9/5 per acre
'T'	Sunderland Middle West farm	100	5/- per acre
'U'	Fleatham Northside farm	100	3/11 per acre

Date	'R'	'S'	'T'	'U'	Date	'R'	'S'	'T'	'U'
1760	100	100	100	100	1800	358	182	310	224
1770	?	100	145	100	1810	448	292	439	670
1780	213	156	178	125	1820/30	635	372	666	770
1790	213	130	178	125	1840/50	635	397	666	695

From this comparison it becomes abundantly clear that the agricultural history of North Northumberland, as mirrored in the rents paid by the tenants, was very different from that of the southern part of the County near Corbridge. In the mid-eighteenth century comparable land was usually fetching nearly twice as much per acre along the Tyne and the staggering increases in the north after 1760 did little more than bring the two areas into parity with respect to the rent per acre. Where through some 'accident' the rent payable in 1760 was comparable with that being paid further south, the later pattern also conformed in broad outlines, elsewhere the pattern between 1750 and 1850 in the two regions had no similarity. The evidence does not enable one to be dogmatic about the reasons for the disparity between the two regions circa 1750, but there are some clues which further research might confirm. The impression formed by George Liddell in 1718 that given the 'slothfull, injudicious sort of tenant' and their inferior husbandry, rents of between 2/- and 4/- per acre were 'dear enough' may well have applied over a much wider area than the immediate neighbourhood of Eslington. The fact that on that estate rents could be raised by 1720 to double their previous figures would indicate that it was at least possible for comparable rents to be

(1) See p. 209

paid even then. The presence of a few isolated examples of rents far above those being paid by neighbouring tenants is coupled with the fact that there may be a geographical pattern in the spread of 'improved farming' allied to the importation of foreign tenants along the lines suggested by George Liddell in 1718. Lastly there is the possibility that the main feature of the 'new farming' in its early stages was not turnips but clover and increased quantities of corn. The suitability of the Tweedside land for turnips may have accentuated the size of the rent increases after 1770, but it does not explain it entirely, and it is surely no accident that the 'doyens' of Tweedside farming - the Culleys - came from near Darlington rather than from within the area.

From all this upheaval one group of farms remained aloof - the sheep farms in the heart of the Cheviots. Among them there were increases both before and after 1760 but they were of a totally different order, and reflected to a considerable extent the increasing demand for the improved breeds of sheep for fattening on the turnips being grown after 1780 on the lower farms. What happened on these farms may well be particular to them since they were more often than not held with more fertile farms, but their rents between 1750 and 1850 approximately trebled, a very small increase when compared with their partners on the better land.

Having seen that the patterns of rent deduced from the evidence for the Corbridge/Hexham area, while not being applicable to North Northumberland, do provide a very useful basis for comparisons, we can now turn to the last area to be studied - South West Northumberland.

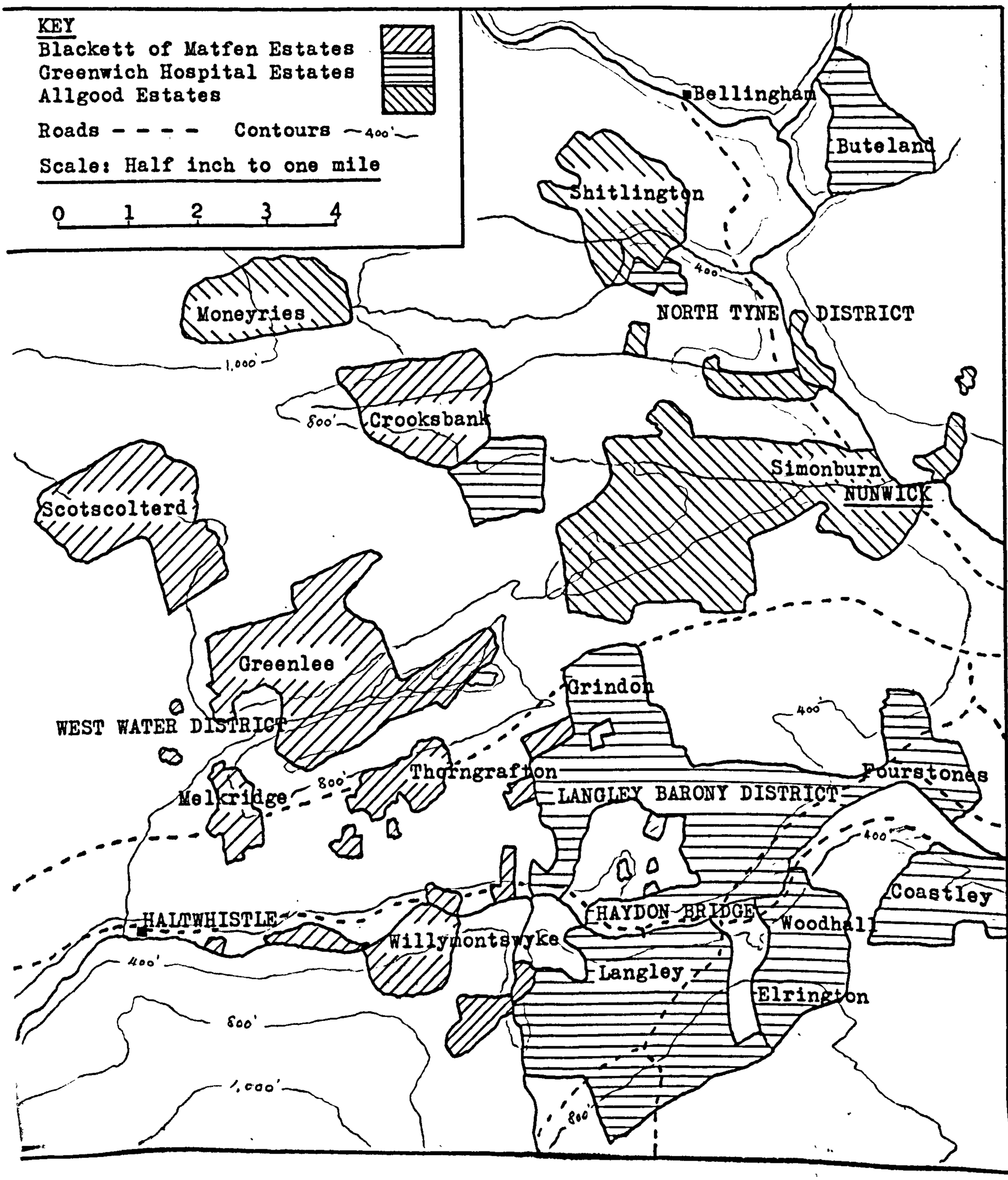
Section 4.

Part 3. South-West Northumberland. (pages 338-393)

Synopsis:-

As with the preceding part of Section 4 this part is divided into three geographically determined districts, but within those districts the treatment is different in that rather than divide them into three periods a number of representative farms are taken and examined for the whole period. For this reason there is a rather fuller introduction to the whole area in which the evidence on housing, prices and so forth from the Nunwick papers is given.

THE SOUTH-WEST NORTHUMBERLAND AREA.



Section IV. Part 3.

The South-West Northumberland Area: Introduction

Although it lies only a few miles to the westward of the previous area, this one displays a number of distinctive geographical and historical features. The map opposite shows, in addition to the three main estates that will be examined, the outlines of the principal geographical features.

The North Pennine/Cheviot uplands are in this area intersected by the sister rivers of the North and South Tyne, with their several tributaries. These uplands are for the most part inhospitable barren wastes, chronically ill-drained, and in recent times increasingly abandoned by agriculture in favour of forestry. An ill-defined line separates this area from the upper slopes of the valleys, which in turn merge into the more fertile valley floors. A single contour line is inadequate as a guide for this division, since highly localised topographical factors are of the greatest importance in determining the possible land use, but in general beyond the 800 ft. line there is, and was, little but rough grazing, while arable crops above 400 ft. were extremely prone to damage through adverse weather.

The two main valleys become, as one would expect, narrower the further upstream one goes. The wide 'haughs' below Hexham are much less common or extensive, while beyond Haydon Bridge the valley floor itself lies above 200 ft. and the hills rise abruptly from the riverside. Climatically the whole area suffers from severe winters with heavy snowfalls, particularly on the higher ground, and the presence of a number of notorious 'frost pockets' on the lower ground. Even the summers are shorter and blessed with less sunshine than the area only a few miles further east.

Important as these geographical factors are, they are somewhat overshadowed by the historical results of the 'Border'. Only occasional and large scale raids reached as far as Hexham, but in this area insecurity and lawlessness were endemic. Nucleated settlements are found normally in conjunction with either a castle or a major Peel Tower. Nearly every one of the townships along the South Tyne is provided with its own stronghold (Peel Tower or Castle House), and in the North Tyne the only villages are found surrounding important castles, such as Wark and Simonburn. Beyond the confines of these settlements lay a number of isolated holdings, some of which betray in their name their original nature as 'Shields' or summer pasture housing. In addition to these, there were, however, a number of isolated holdings which either provided their own security with small peel towers or relied on their inhabitants being connected with one or other of the 'clans' - Armstrongs, Dodds, Robsons and Charltons.

From the point of view of this study the resulting 'archaism' of customs is perhaps one of the most important features. The decline of the copyhold or customary tenant noted in this area in 'North Country Life' does not seem to have affected the valley manors to the same extent as those there examined, but nevertheless the impression of antiquated practices continuing well into the 18th century is confirmed.(1) The Receivers of Greenwich Hospital still extracted in the 1750s the 114 'bondage hens' due annually from the tenants within Langley Barony; the rents of many of the Allgood tenants in the first three decades of the century were made up in large measure by work done and produce received

(1) E.Hughes. 'North Country Life in the 18th Century', pp.113 - 128

in kind rather than cash, and Herriots and succession and 'twenty penny fines' were being successfully demanded from the customary tenants of the Blacketts well into the 19th century.

Another aspect of this archaism resulting in part at least from the proximity of the Border is seen in the very great difficulties encountered by the landlords in trying to impose any discipline in agrarian practices among their tenantry. On this, the fact that not one of them were the heirs of old established families had some bearing; the Allgood tenants, for example, who had been unruly even towards the Herons of Chipchase, were scarcely likely to take more readily to a family which many of them considered upstarts. The chances of attracting 'foreign' tenants were limited in so far as the land itself was uninviting and the 'natives' went out of their way to be obstructive towards such intruders.

In 1780, despite the full support of his master - James Allgood - the new agent was forced to resign in the face of organized ill will. Among other methods of displaying this ill will the unfortunate agent found it impossible to prevent the doors and windows of his house in Simonburn being removed whenever he was absent, and his neighbours unanimously refused to sell food to him during severe weather when supplies from elsewhere were unobtainable. As surprising as the methods used is the fact that all inquiries,even under legal sanctions, failed to produce any evidence on which the well known ring-leaders could be dealt with. It took ten years to be rid of some of them and often the price was a decline in rent rather than the renewal of a tenancy to one of the culprits.

For reasons which are still obscure in detail, the sixteenth, seventeenth and eighteenth century saw in this area the decline of a number of

the smaller hamlets either to one or two farms or even to complete desertion. The evidence makes it clear that sub-division of limited land into uneconomic holdings was not a cause but rather suggests that faced with uncertain and uncongenial surroundings emigration on an important scale took place. Men left, and then came the larger farms and the decrease in arable land, sheep replaced rather than displaced human beings. The absence of churches possibly assisted this decay, since in the whole of this area there were only the four parishes of Hexham, Warden, Haltwhistle and Simonburn, some of which included over a dozen townships. Deanraw, Rattenraw, Elrington, Brokenheugh, Allerwash and Fourstones are only some of the more well documented cases in which hamlets have their economic organization so changed that they end up as single farms. In this process, direct positive action by the landlord is inconspicuous, rather does he appear as acquiescing in the inevitable.

The limitation on pastoral farming was not imposed by shortage of pasture in the summer, but by the absence of fodder and secure accommodation in the winter. The vast tracts of moorland grazing were very undergrazed, for example on 500 acres of quite reasonable land near Greenlee Lough there were in the 1790s only 'four lean beasts and 73 ewes with lambs' even in July! Thirty years later the stock had been quadrupled. An ever present hazard for the sheep in these areas was the rot which followed inevitably from the absence of effective drainage. On some of the grazing grounds entire flocks had to be replaced annually in an attempt to reduce the mortality, but even so the losses were considerable.

On the lower grounds two practices militated against good farming. Along the valley floors in particular, hard cropping with three and even

four successive white crops was the rule until at least after 1760, while the necessity for folding the ewes on the more protected pastures in the spring resulted in the grass being eaten almost down to its roots, and inferior hay crops later in the year. From these difficulties enclosure offered some chance of relief, at least for the progressive tenants, and in the years following the enclosure of Henshaw, Thorngrafton, Melkridge and Grindon commons and town fields, good crops of oats were grown on the newly enclosed lands, while the lower ground received a much needed period in grass. One of the reasons for this was that in accordance with the judgement in the case of Stockwell v Terry, tythes could not be claimed for seven years from land which had required paring and burning before it could be brought into arable cultivation.

The effect of these enclosures was extremely variable. In some cases the new allotments did little more than formalize pre-existent grazing practices, whereas in others it meant that farms consisting originally of some 100 acres of rich valley land entirely devoted to tillage were over-night doubled in size by the addition of a similar quantity of rough grazing, often more than four miles distant. It is scarcely surprising that in many cases little was done to bring about improvement in the new allotments, even where improvement was practicable.

In the early 18th century it would appear that for much of this area farming was little removed from bare subsistence, with few commercial crops save on the valley floors, and the income from sheep dependent as much on the sale of sheep's milk cheese as on wool or mutton. The ever present Kyloes provided a competitor for the store cattle which would otherwise have been an important item. Grain growing in the north Tyne

was almost exclusively of spring sown corn which had to wait before it could be sown till the ewes and lambs had been driven onto the rough grazing. Wheat was confined to the valley haughs, and, if the sales from Nunwick Mill are any guide, rye bread and oatmeal in various forms provided the staple diet.

The Allgood records in particular furnish a wealth of information on living standards, prices,and social conditions throughout the century. Wherever the less full records for the other two estates provide material for comparison the similarity between conditions in the North Tyne district and the rest of this area is strikingly evinced. For this reason I have included some of the more interesting pieces of information at this stage rather than in the more detailed study of the North Tyne District.

The first point of interest is that during the 1720s and 1730s the tenants were almost universally incapable of signing their own name to anything. This holds true of builders contracting to build housing to particular specifications, tenants paying up to £80 p.a. in rent, and of hinds being hired for the year. Fifty years later, literacy,at least as far as being able to sign one's name, was universal among the tenants and common even among the labourers.

One of the richest of the groups of manuscripts from Nunwick is a collection of inventories and sale accounts. It must be admitted that the household furniture and livestock of a failing tenant may be dangerous evidence for the standards of living and stocking among the more successful tenants, but in some cases this difficulty does not apply. The bailiffs were put in sometimes not because the tenant was bankrupt but to encourage

him in being more prompt in paying his rent. Inventories made on behalf of the absentee executors of tenants who died suddenly, or where there were no heirs, cannot be said to suffer from the disadvantage of not being representative. Even in 1816 the furniture on a farm of over 150 acres paying a rent of £150 p.a. was sparse:

'Inventory of goods belonging to Geo.Hunter taken Dec.12th 1816'

Household furniture: Kitchen:- one clock, dresser, and shelves, table frame and form, bedstead, bed and bedding, chairs.

Parlour:- two bedsteads, beds and bedding, two tables, drawers and chair.

Far Parlour:- one bedstead and a case of drawers

Upstairs:- one bedstead, bed and bedding.

Thirty-five years earlier a more detailed inventory of the goods of a tenant who had suddenly died without heirs illustrates the same shortage of material possessions.

'An inventory of the household furniture belonging to the late Wm.Baty taken November 12th 1782'

1 bedstead	1 large box	1 pair of tongs
1 cupboard	1 large pott	1 brass candlestick
1 dresser	1 large gridle	5 pewter dishes
1 table	1 little yetling	6 wood trenchers
1 form	1 iron pott	5 stone dishes
2 chairs	1 rack and crook	1 plate (earthenware)
1 chaff bed & bolster	1 happing	2 potts (earthenware)
1 pair yarn winders	2 stools	

In both cases I have omitted the various churns, cheese vats and milk vessels in the dairy.

From these household inventories it becomes clear that the first luxury to penetrate into these parts after circa 1780 was a clock. Before that date the furnishing beyond bedding and tables was almost confined to

the dresser and cooking implements. One surprising absentee from these lists is the spinning wheel, or any other equipment that might have been of use in domestic industry. Cutlery, when it is mentioned at all, seems to have been confined to wooden spoons, while in only one case out of over fifty is there any mention of curtaining, other than round the beds.

The houses in which the meagre belongings were kept were for the most part thatched with ling in the early 18th century, though later stone slates were used. Except on some of the biggest farms, the houses were little more than cottages with two rooms downstairs and a single upstairs room open to the rafters.

In their dimensions the housing built for their tenants by Greenwich Hospital was closely comparable with that built by both the Allgoods and the Blacketts, but if the condition of such housing nearly 200 years later is any guide, the quality of the Greenwich farm buildings was rather better. For this reason, the following examples of housing erected on the Greenwich estate should be taken as typical in size, but they cost some 20% more to build than those put up by their neighbours. Three examples from the second half of the 18th century illustrate the standard of housing etc. set by Walton and Smeaton and it is worth noting that all three of them are still inhabited.

1. Whitechapel farm (near Haydon Bridge) (c.150 acres, rent 1758-79 £52 p.a.)

New buildings 1767	Dimensions	Cost
House	40' x 19' x 14'	£91
Milk House	15' x 7' x 7'	10
Stable	24' x 15' x 9'	30
Two Byers	21' x 15' x 9'	49 for the two
Total		£180

2. Wark Common (Manor) Farm. (A new creation on the division of Wark Common, the 'lord's sixteenth' some 80 acres let at £10.10. 0.p.a. in 1770.)

New building 1769	Dimensions	Cost
House	22' x 15' x 14'	£51
Dairy	15' x 7' x 6'	9
Stable	13' x 15' x 9'	14
Byer	21' x 15' x 9'	19
Barn	24' x 15' x 13'	24
Fold wall and oven		7
	Total	£124

3. Elrington East farm. 578 acres let from 1791 @ £130 p.a.

House	36' x 15' x 17'	£120
Toofall for dairy and back kitchen	36' x 9' x 9'	
Stable	24' x 15' x 13'	34
Byer	21' x 15' x 9'	22
Barn	30' x 15' x 13'	37
Cottage	18' x 15' x 9'	25
	Total	£238

From this evidence for housing and living conditions we can now turn to examine briefly the evidence from the Nunwick papers for changes in prices, particularly during the 18th century.(1)

In a pastoral district changes in the livestock prices are bound to be of crucial importance and at Nunwick there is uncontrovertable evidence for a very steep rise after circa 1730. In the first few years of the 18th century the highest price either paid for or received for a cow was £3. 4. 6, while most of them fetched between 35/- and 45/- per head, at which they were the same as those changing hands thirty years later. Oxen presumably for draught purposes were rather more expensive, fetching between 60/- and 65/- per head at both dates. By the 1750s there had been a considerable change, with cows fetching never less than £3.10. 0, and often over £5. Calves which had earlier been worth 10/- to 12/-

(1) The following prices are taken either from the ledgers or after 1770 from the ledgers and particulars of forced and other sales. As far as possible the figures are representative of those in this collection but it is not possible to say how far, geographically, they may have applied.

by then reached over 20/-. It is perhaps symptomatic of the decline in the use of oxen that their prices had not increased by anything like the same amount.

The precise dating of these increases is impossible from the Nunwick evidence, but from other sources it would appear that it took place largely after 1745, and may well be the result of the severe cattle distemper which broke out in the south in 1747 and reached its peak near Newcastle in 1753.(1) Certainly no further increase had taken place by 1781, though the latter year was one of severe depression, when at a sale of a bankrupt tenant's stock the prices for the 11 cows varied between £3. 5. 0 and £4.10. 0.

By 1808/10, when there were a number of sales not of bankrupt but deceased tenants' stock, a further increase had taken place as cows were then selling between £7 and £10 per head and other cattle also showed a similar increase over the prices being paid during the 1780s. Milk cattle sold in 1816 from bankrupt tenants' stock fetched about the same price as in 1808, but the following year prices had fallen considerably till they were between £5 and £8.

Among sheep a similar story can be told of very considerable increases between the first three decades of the century and the 1750s. Ewes with lambs fetched about 5/- a couple (i.e. one ewe with one lamb) both circa 1700 and in 1729-33 whereas 10/- was being paid for them in the 1750s and 8/- per head for feeding wethers. Tythe fleeces valued at 6d. and 8d at the earlier period had also doubled to between 1/- and 1/3, and tythe lambs had risen from 3/- to 6/6.

(1) See Hughes op cit. pp.144 ff.

After that date the pattern for sheep diverges from that for cattle with the added complication that very considerable differences appear between the prices for healthy sheep from different flocks at the same date. In part, this may follow from the differences in the prices of wool noted by George Bates in 1809.

> 'I am sorry my son, John, has no black-faced sheep this year, they are the finest mutton when fat, but their wool is so much inferior to the white faced Cheviot sheep that the farmers do not keep black faced sheep whose wool was sold last year at 2½d a pound only, when the other wool was sold for 1/- or 1/2.'

A year earlier the entire flock at Great Lonbrough farm (over 500 acres) consisting of 42 lambs and 276 other sheep had fetched £258. Ewes with lambs sold at between 20/- and 23/6d a couple, wethers about the same each, and hoggs between 16/- and 18/- each. Tythe fleeces already 2/- by 1790 reached 5/- in 1809. After the war the evidence for both cattle and sheep from this source is too meagre to do more than suggest that apart from a fall in 1816-17 prices remained surprisingly stable.

In the case of sheep, the evidence does not allow any firm cause to be suggested for the increase in the early part of the period, but it may well in part reflect the increase in stability following the ending of Border troubles, and in part also the steady improvement in quality of the flocks.

The importance of this evidence as an explanation for the increases in rents is heightened when the figures for grain prices are considered. Oats selling at 2/6 per bushell (there is no indication whether this was Winchester measure) in 1702/3, had risen slightly by 1729/30 to 2/9 to 3/-, and again only slightly to 3/4 to 3/6 in 1753/4. Bigg varied considerably

according to quality in the same season, but again there is evidence to support the view that the overall increase during the first half of the century was but slight. Best wheat bought for the kitchen fetched about 5/- per bushel in 1703, 1729/30 and 1733, but had fallen to 4/- by the early 1750s. One interesting point on these figures is that they differ markedly from those paid at Windsor, but are generally rather higher.

Lastly on prices we can briefly look at labour costs. In 1699/1700 ordinary labour was paid 6d per day in summer and in some cases less at 4d in winter. Mowing was at double rate of 1/-, while shearing (corn not sheep) remained for both men and women at the same price of 6d. If the work entailed the use of the tenant's plough or wain the rate per day rose to 1/6, and if horse ploughing 2/-. These rates were also operative in the early 1730s. By 1750 the basic rate was either 8d or 9d per day in summer and 6d in winter, with special rates for mowing etc. proportionately increased. Thirty years later, further increases had raised the rates to 1/-, at which they remained till the mid-1790s. It is from the labour returns that we get the earliest known reference to turnips being grown, when in 1758 half a dozen women were being paid 4d per day for weeding turnips and the total cost came to 12/8. This is ten years earlier than the date given by John Grey for the introduction of this crop and it may well be that on some farms it was being grown even earlier. Clover seeds were being bought by the hundredweight thirty years earlier, and in such quantities they can scarcely have been confined to the home farm.

Information on cropping on all three estates is almost entirely absent, but the parish returns of 1801 for Haltwhistle and Warden indicate

the relative importance of the several crops at that date and seem to correspond with the few pieces of information available farm by farm.(1)

Crop	Haltwhistle	Warden
Wheat	163 acres	836 acres
Barley	590 acres	973 acres
Oats	1,700 acres	1,941 acres
Rye	nil	60 acres
Pease	10 acres	56 acres
Potatoes	140 acres	7 acres
Turnips	150 acres	123 acres

Unfortunately no return seems to have survived for Simonburn parish, but it would appear that the emphasis on Oats would have been equally marked, but that under the strong encouragement of the Allgoods, turnip acreages would have been rather higher. One of the most interesting of the clauses in their leases after 1777 is that on the lower farms sheep are expressly forbidden save for 'such as can be fed on turnips'. On the few farms for which there is evidence, clover and five course rotation would seem to come after 1790, while before that date the clover seed had been used in laying down tillage land to semi-permanent pasture. The practice of having a gradual changeover of the tillage land over some thirty years, in which, as occasion arose, some grassland would be ploughed out and an equivalent quantity of tillage land laid down to grass, seems to have been common on all three estates but particularly prevalent near Nunwick.

One last indication of the changes in the value of corn grown may be taken from the tythe receipts of Haltwhistle parish, given for selected dates below:

Haltwhistle Tythe Receipts.		
1695/1700	£131	(on lease)
pre 1758	125	(on lease)
1758	198	(valued and then let annually)

(1) P.R.O. Home Office 67/8.

Haltwhistle Tythe Receipts (continued)

1768	£189	(valued and then let annually)
1775	267	ditto.
1785	251	ditto.
1795	344	ditto.
1801	742	ditto.
1809	593	ditto.
1815	531	ditto.
1820	600	ditto.
1830	426	ditto.
1835	383	ditto.
1841	420	(the basis on which the tythe rent charges were apportioned in commutation)

The only other point that remains to be made in this introduction is that on the Allgood estate leases were rarely for more than nine years throughout the period, in marked contrast to the twenty-one years almost universal among the Greenwich farms and the Blackett's after circa 1790. The pressure on their resources made the Allgoods less willing to grant temporary abatements and arrears were throughout rarely allowed to exceed six months rent. As a direct consequence of this policy there are frequent changes of tenants, the most striking example of which took place at Billerly farm, where between 1700 and 1850 two tenants only were there for more than 10 years, and if their tenures are excepted there were no fewer than seventeen changes of tenant in 100 years.

From this introduction to the conditions in the area as a whole we can now turn to examine the changes in the rents which mirrored changing conditions. In this, the area will be divided into three districts according to the predominant landowner. The South Tyne valley falls into two districts, one of which contained the very extensive Greenwich Hospital estates in Langley Barony, lying for the most part east of confluence of the Allen and South Tyne. To the west of that point lay the less extensive

and scattered properties which were entered in the Blackett ledgers as the "West Water Estates",extending almost to Haltwhistle. The third district is that up the North Tyne where the Allgood estates lay, and with that, for convenience, will be treated the large sheep farms lying in the desolate area between the two rivers.

For each of these districts a more detailed map will be given, on which individual farms will be indicated, but apart from that there will be no further detailed geographical introduction. In each case a few representative farms will be taken, a graph given of their rents and then such rents reduced to index form in which they can be more readily compared with the two preceding parts of this section. This detailed study will start by taking the Langley Barony district and finish with the North Tyne estates, but each of the districts will be compared directly with the previous areas rather than one with another.

THE LANGLEY BARONY DISTRICT.

KEY

Blackett of Matfen

Greenwich Hospital

Scale : One inch to one mile.

0 ½ 1 1½ 2

MILITARY ROAD

500'

Grindon

Millhills

Beamwham

Fourstones

R. SOUTH TYNE

Allerwash

Chesterwood

Brokenheugh

500'

White-
chapel

Mill Hills

Coastley

R. SOUTH TYNE

Lipwood

Woodhall

Rattenraw

HAYDON BRIDGE

500'

Tedcastle

Lands Ends

Elrington

Lees

Langley Castle

Deanraw

Vauce

Langley Lead Mill

Harsondale

1,000'

Section IV. Part 3.

The Langley Barony District

By the first years of the 19th century, Greenwich Hospital owned just over 10,000 acres in this district and in so far as there was a nucleus to that estate this was it. Much of this land had been but recently enclosed, in particular as a result of the division of Grindon Common in 1797. In the Survey of the Border Lands of 1604[1] there is this very interesting entry.

> 'It appeareth by the same survey (one taken temp. Henry VII now lost), that Grindon was then a towneship, and, as is reported, a market towne; the rent of the demeanes there then was XL s.: and husband farms and cottages, the rent of them was lll Li, vi sh. viiid. so the whole rent was v li., vi^{s} viiid. Quantity 1,160 acres.
>
> The same towneship and buildings thereof is now decayed, and there only remaineth the grownd worke of the houses to be seen. The ground belonging to the same township is used by the inhabitants of the Barronye of Langley as common and shieldinge ground without paying anie rent.'

A highly detailed survey of 1737, while providing the only cartographic indication as to the whereabouts of the Chapel which gave its name to the farm of Whitechapel fails entirely to give any suggestion as to the exact location of this deserted site. This same survey does, however, preserve for us in many cases the distribution of holdings in the intermediate stage between communal strip cultivation and the later rationalised units.

In a number of cases there were in existence during the early 18th century, 99-year leases granted either circa 1653 or circa 1680, which again indicate the earlier divisions of holdings. In some cases, although the number of acres is different from one holding to another, the rents are identical, and exact fractions of the whole, and in others the long leases are noted as referring to, for example, 5/29ths of the whole, with the

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(1) Published in a limited edition in 1891. Ed.R.P.Sanderson. p.72.

remaining 24/29ths being let on shorter terms to the same tenant(s).

Prior to the enclosure there was no system of stinting on the commons and no indication of the extent to which sheep and cattle were depastured on them. Unlike the Hexhamshire area, where it is known that the old enclosed lands were used as a basis for extensive pastoral activities on the commons beyond, in this district in the case of the riverside farms it is quite impossible to know to what extent their rents included some figure for their grazing rights.

This is one reason why it is impossible to compare the rent of the same farm before and after enclosure in terms of rent per acre, since in fact there was no change in the actual total rent paid. For example, the farm at Lipwood-Well was let for twenty-one years in 1791, at which date on the 105 acres of old enclosed lands it was at 23/3 per acre. In 1797 no less than 390 acres of new allotments were added, so that the same total rent of £123. 6. 0. became equivalent to less than 5/- per acre. To what extent the figure of 23/3 was unrealistic the evidence is entirely unable to suggest.

The use, therefore, of one base year (1760) for a rent index covering the whole period up to 1850 is impracticable for the vast majority of the farms, and I have used two bases, the one 1760 to cover the years up to enclosure, and the other the rent per acre on the larger post enclosure farms in 1800. It should of course be remembered that in fact the rent in 1800 was in every case the same in total as that being paid immediately prior to the enclosure. On the graphs the two rents per acre payable on the lease which comprehended the date of enclosure are both given with a broken line indicating that period when the particular figure was inapplicable.

LANGLEY BARONY DISTRICT.

'A' **Mill Hills farms.** (see text)

60/- 50/- 40/- 30/- 20/- 10/- 8/- 6/- 5/-

99 years lease to 1778.

1720 1740 1760 1780 1800 1820 1840 1860

'B' **Allerwash farms.** (see text)

60/- 50/- 40/- 30/- 20/- 10/- 8/- 6/- 5/-

... ?

... ?

1720 1740 1760 1780 1800 1820 1840 1860

'C' **Lees farm,** 165 acres tp 1799; 238 acres post 1799. Tythe free.

40/- 30/- 20/- 10/- 8/- 6/-

99 year lease to 1752.

3/-

1720 1740 1760 1780 1800 1820 1840 1860

'D' **E.&.W. Lands Ends farm(s).** 300 acres jointly. No new enclosures. Tythe free.

40/- 30/- 20/- 10/- 8/- 6/-

3/-

1720 1740 1760 1780 1800 1820 1840 1860

This, though the most important, is not the only change in the size of the various holdings, but where significant alterations occur at other times these will be noted farm by farm.

The first four farms illustrated in the graphs opposite were all originally riverside holdings, including some of the best land in the district. In three of them, enclosure produced a profound effect, while the fourth was unaffected. Mill Hills and Allerwash lie on the north bank of the river, with nearly all their old enclosed lands having a very favourable southern aspect, while the other two on the south bank were consequently less fortunate.

Mill Hills ('A') consisted up to 1779 of two holdings, one of which, containing 17 acres, was on a 99-year lease, while the remaining 113 acres was let for a series of shorter terms. Between 1779 and 1791 there is some doubt as to the size of the two holdings of East and West Mill Hills, but in 1791 80 of the original 130 acres became the nucleus of the West farm to which in 1797 was added a further 80 acres over three miles away. In 1812 these 160 acres were further increased by the addition of some old enclosed lands previously belonging to a neighbouring holding, while the Allotments were retained. The farm thereafter remained at the 209 acres it then became.

At Allerwash similar changes in size occurred. Prior to 1779 it is not possible to distinguish between the several holdings in that township which together included some 400 acres. After that date the Town farm, containing 170 acres of old enclosure, is the particular one illustrated, and to this was added 75 acres of common allotments adjacent to the old enclosed lands. In 1812 this was further increased from 244 to 311 acres

at which it thereafter remained. There is none the less a complication after 1835 as it is not certain if it then included the mill.

For the other two farms the position is less complicated. Lees farm contained 166 acres up till 1799 when the Lees Fell over which it had previously exercised considerable grazing rights was enclosed, and an allotment of 88 acres added. Prior to 1752 five 99-year leases existed for five separate holdings, none of the tenants of which became the sole tenant in 1752. Apart from the period between 1779 and 1835 Lands Ends farm was one holding, but in those years it was divided into West Lands Ends ('D' 1) and East Lands Ends ('D' 2).

With this we can now produce the rent indices for these farms. Since Lands Ends farm was unaffected by enclosure I give in brackets after 1800 the index based on 1760 as well as that based on 1800.

Langley Barony District: Rent Indices. 1. Base Year 1760 - 100.

'A'	Mill Hills farm(s)	base 100	- 11/6 per acre
'B'	Allerwash farm(s)	base 100	- 12/6 per acre
'C'	Lees farm	base 100	- 11/4 per acre
'D'	Lands Ends farms	base 100	- 9/7 per acre

Year	'A'	'B'	'C'	'D'	Year	'A'	'B'	'C'	'D'1	'D'2
1716	46	44	28	33	1780	192	114	112	170	147
1735	46	54	28	54	1785/90	170	114	143	146	140
1737/50	54	66	28	53	1795	231	158	143	146	132

Langley Barony District: Rent Indices. 2. Base Year 1800 - 100.

'A'	Mill Hills West farm	base 100	- 13/4 per acre
'B'	Allerwash Town farm	base 100	- 13/9 per acre
'C'	Lees farm	base 100	- 10/8 per acre
'D'1	West Lands Ends farm	base 100	- 14/3 per acre
'D'2	East Lands Ends farm	base 100	- 13/- per acre

Year	'A'	'B'	'C'	'D'1	'D'2.
1800/05	100	100	100	100 (146)	100 (132)
1810	100.	100	309	279 (419)	100 (132)
1815	402	331	309	315 (476)	287 (403)
1820	272	318	309	315 (476)	221 (300)
1830	244	300	282	312 (471)	221 (300)
1840/50	177	?196 ?278	204	201 (300)	221 (300)

The first thing to note from these indices is that if the rents agreed for 99 years circa 1653 for Lees farm were then a true indication of the value, there had been a doubling by the mid-1730s. The other long lease at Mill Hills, expiring in 1778, was comparable with the rent being paid per acre for the short leased part during the 1720s and 1730s, and thus it might well be the case that this provides some clue which suggests that a considerable increase took place between 1650 and 1680.

These long leases apart, the rents being paid by 1760 elsewhere were closely comparable with the land near Dilston at about 10/-, but there had been here a more marked increase in 1758 in most cases. After 1760, the evidence for the four farms in this group differs. Only one of them (Mill Hills) shows the same marked increase present further east in 1779, while the others conform more closely to the pattern of the Matfen District.

The war-time increases are almost incapable of being closely analysed. In four out of the five farms increases of between 185% and 235% were recorded with no apparent difference being shown between the two farms where enclosure affected the size, and the other two where it did not. At this the increase then was again comparable with what happened further east among the valley farms. The fifth farm (again Mill Hills) increased very much more by over 300%, but in this case boundary changes in 1812 may well be of vital importance. The post-war decline was also similar to that near Dilston, so that with only minor modifications consequent on the timing of enclosure etc., these farms after 1760 can be seen to have behaved in very much the same way as the group which were examined on page 326. (Those with rents between 10/- and 15/- in 1760). It is only in the period before 1760 that any significant differences emerge with

LANGLEY BARONY DISTRICT.

'E' Tedcastle farm. (see text)

99 year lease to 1752.

'F' Lipwood & Lipwoodwell farm(s). (see text)

'G' Vance and Loaningfoot farm(s).
117 acres. No allotments.
Tythe free

'H' Woodhall farm.
c.240 acres. No allotments.
Subject to petty tythes only.

30/- 25/- 20/- 15/- 10/- 5/-

1720 1740 1760 1780 1800 1820 1840 1860

30/- 20/- 15/- 10/- 8/- 6/- 4/- 3/-

1720 1740 1760 1780 1800 1820 1840 1869

rents here being noticeably lower prior to the re-letting of 1758.

These next four farms (Tedcastle ('E'), Lipwood and Lipwoodwell('F'), Vauce ('G'), and Woodhall ('H'), with only very minor modifications, confirm this similarity between the behaviour of rents in this district and near Corbridge. In the case of Tedcastle and the two Lipwood farms, there are certain difficulties resulting from common enclosures, but, except these, for which modifications in the indices must be provided, little further introduction to the indices is needed.

By accident among the Allgood papers there has survived the detailed tythe valuation for 1779 for the two Lipwood farms,which gives important evidence of the cropping at that date. The details of this are as follows:

Lipwood farm,136 acres in all.	Lipwoodwell farm,87 acres in all.
22 acres maslin	7 acres Maslin
9 acres wheat	9 acres wheat
27 acres barley	25 acres barley
7 acres oats	8 acres oats
4 acres pease	2 acres pease
69 acres, total. (50.7% of farm)	51 acres, total. (58.6% of farm)
Total tythe £24.18. 6 (3/8d per acre)	Total tythe £14. 4. 0 (3/3d per acre)

In 1786 these tythes were bought from Mr.Allgood by the Hospital, and after 1791 the two farms were let tythe free so that a considerable part of the increase in rent in that year is apparent rather than real. In 1771 Lipwoodwell was one of the farms most severely hit by the great flood, losing £18 worth of livestock, £30 of corn, and ground damaged to the extent of £16 per annum. In 1816 both farms were again very severely affected by a similar catastrophe, which may well go some way to explaining the abnormally severe decline in their rents the following year. In both cases the allotments from the common were noted in 1805 as being of some of the worst quality land, and more or less incapable of improvement.

Tedcastle prior to 1791 consisted of some 27 acres with rights on the nearby Lees Fell. In that year a further 26 acres were bought by the Hospital, and for the joint holding of 53 acres an allotment of 21 acres was added in 1799 so that after that date the holding was of some 74 acres. There is some doubt as to the rent between 1779 and 1791 for which reason no index figures are given for those years, but in so far as the land bought in the latter year lay intermixed with the existing holding, the larger holding can be realistically compared with that prior to 1791.

Langley Barony District: Rent indices. Base year 1760 - 100.

'E' Tedcastle farm	base 100 -	13/4 per acre
'F' 1. Lipwood farm	base 100 -	11/9 per acre
'F' 2. Lipwoodwell farm	base 100 -	12/11 per acre
'G' Vauce & Loaningfoot	base 100 -	6/0½ per acre
'H' Woodhall farm	base 100 -	10/- per acre

N.B: For 'E' & 'F' 1 and 2, the index post 1800 is based on 1800 - 100, 'E' - 11/- per acre; 'F'1 8/6 per acre; 'F'2 5/- per acre.

Year	'E'	'F'1	'F'2	'G'	'H'
1716	38	36		47	34
1735	38	36		56	34
1740/50	38	57		56	50
1760/70	100	100	100	100	100
1780	-	112	133	109	?83
1790	-	112	133	126	96
1795	109	166	179	126	96
1800	(109)100	(166)100	(179)100	126	96
1810	260	100	100	311	298
1815	260	302	260	311	298
1820	187		211	235	207
1830	295		211	329	207
1840/50	182		176	242	166

In the case of the first three farms, in so far as any continuous pattern can be discerned it follows closely that found among the four farms already examined in this district. Vauce ('G') despite the fact that the base year rent was only half that on the others shows a very close similarity to farms further east that were also let at about 6/- per

LANGLEY BARONY DISTRICT.

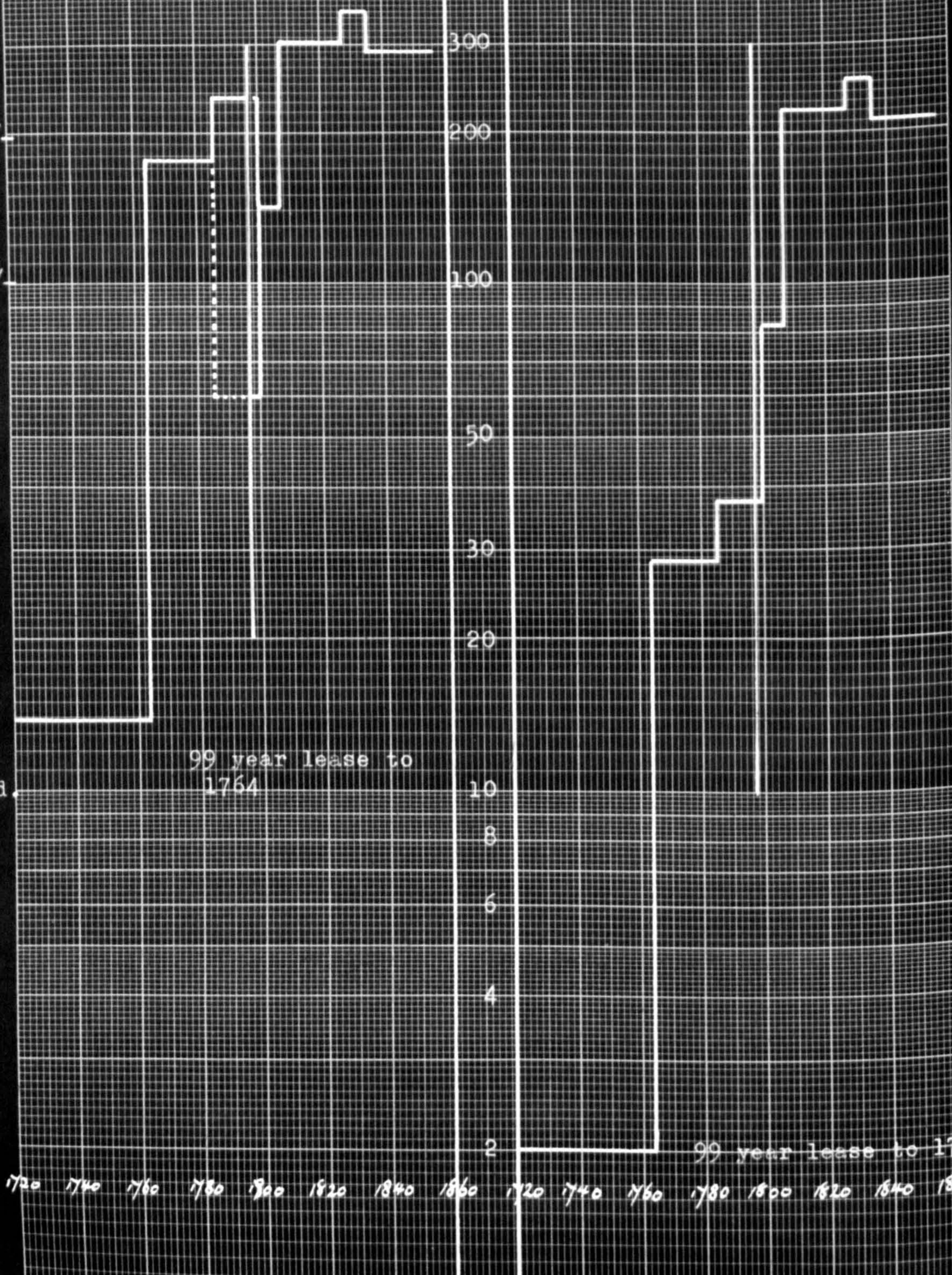
'J'

Beamwham farm.

c. 70 acres prior to the enclosure of Thorngrafton and Grindon Commons in 1797. 234 acres till 1807, 290 acres thereafter.

1. Rent per acre

2. Total rent in £s.



acre in 1760, but Woodhall clearly exhibits certain peculiarities which seem to stem from the height of its rent per acre on the lease from 1758-1779. The three-fold increase between 1735 and 1758 with a doubling at the latter date would not without the later history betray anything peculiar, but in view of the decline between 1775 and 1791-1812 there can be little doubt but that the base year's rent was over-high in comparison with its neighbours.

So far, therefore, in this district the patterns of rent changes are closely allied to those found further east, except that there is a more marked increase during the fifty years up to 1760. The last farm taken as an example is in many ways unique in that it was not apparently part of an ancient settlement (unless of the 'lost Grindon') and was entirely situated more than two miles from the river. Prior to the division of the Thorngrafton and Grindon commons during the 1790s it had consisted of some 70 acres of enclosed land, but clearly enjoyed considerable grazing over those areas. On enclosure it was increased in size to 234 acres and in 1807 a further 60 acres were added. In many ways, as an enclave of enclosed land in the midst of unenclosed, it is reminiscent of the Hexhamshire farms, but its rental pattern is very different.

The two graphs opposite both refer to this one holding, the right-hand one giving the rent per acre, and the left-hand one the actual rent in £s. On three occasions descriptions of the place have come down to us. In 1774 it was described as a 'pretty little farm', in 1805 the Report is much fuller

> 'The buildings consist of a small farm house, and two byers very much out of repair.... This farm is in a cold inhospitable situation, and the land of bad quality:... a considerable part of the allotments

> remains uncultivated, and no improvement can be expected from the present tenant, who has shown great negligence in the management of the land.'

Thirty years later John Grey visited the farm and in his journal there is this entry[1]

> 'Rode to Beamwham. This farm in a high country only calculated for keeping stock requires no buildings save a shepherd's house and some cattle sheds, and cow houses; but it has been accomodated with a barn, thrashing machine, stable, and granary, apparently before it was discovered that the soil and climate not admitting of the growth of corn, rendered them useless.'

One reason for its decline in appeal after 1774 may be found in the gradual disappearance after that date of Grindon Lough as a lake and its replacement by an ill-drained moss, and also the thoughtless destruction during the 1790s of the plantations which had previously offered protection. A new house, surrounded by trees, facing out over a lake and seen in August, is likely to be a much more attractive place than it would appear without trees or lake in February.

What of the rent paid for the place? Prior to 1764 the 99-year lease for £2 p.a. equivalent to slightly less than 6d per acre may well not have been a true reflection of its worth at any stage. For this reason the following figures only start in 1764.

Langley Barony District. Beamwham Farm. 1764-1854.

Period	Total rent 'A'	Rent per acre 'B'	Index based on 'B'(1764 -100)	Index based 'A'
1764-1785	£28.10. 0	8/10	100	100
1785-1800	37.13. 6	11/9 (3/-)	100 134 (35)	134
1800-1807	83. 0. 0	7/2	240 80.5	291
1807-1828	221. 0. 0	15/3	509 173	765
1827-(1848)	255. 0. 0	17/8	535 200	896
1835-1854	210. 0. 0	14/6	435 165	737

(1) P.R.O. Adm. 80/20. Entry for February 18th 1835.

In this case it is at once clear that the pattern here displayed is unlike anything hitherto found. How far it is peculiar to this farm or common to other farms in this area which were so dramatically affected by common enclosure one cannot at this stage say. An increase from £28.10s. to £255 without any increase in size would be unthinkable within so short a space of time on such land. The fact that the later farm was over four times the size does not however mean that a simple division of the rent then being paid would necessarily produce the right answer. There must be some hesitation before one can say that the 17/8d per acre being paid for 290 acres of enclosed land without rights over additional unenclosed areas is comparable with 8/10d being paid for 70 acres of enclosed lands with such rights. Obviously before any judgement can be made, further evidence will be needed,which, since there are no farms similarly situated on the Greenwich estates, must wait till the adjacent West Water District is examined.

It is to that district that we can now turn, bearing in mind not only the behaviour of this particular farm but also that elsewhere in the Langley Barony district after 1760 patterns were essentially similar to those found further east. Before that date there is considerable evidence to suggest that rents were noticeably lower further west. What an examination of the West Water district may provide is the corroboration that these phenomena were not accidental to the Greenwich estates.

THE WEST WATER DISTRICT.

Crookbank

Broadpool

Scotscolterd

Grindon Green

Greenlee

HENSHAW COMMON

Wealside

Gibbshill

GREENLEE LOUGH

Hotbank

TIPALT BURN

Mill Hills

High Bradley

Beamwham

CAW BURN

Close a Burns

High Shield

Bradley Hall

MELKRIDGE COMMON

Whitshields

MILITARY ROAD

Melkridge farm

THORNGRAFTON COMMON

White-Chapel

Barden Mill

Melkridge

Henshaw

HALTWHISTLE

Woodhall

Partridge Nest

Willimontswyke

Plankey

STYNE

Farnalees

KEY

Blackett of Matfen

Greenwich Hospital

Allgood

Scale: One inch to one mile.

0 ½ 1 1½ 2

facing

36

Section IV. Part 3.

The West Water District

To facilitate the examination of rental histories of the farms in this district I have selected nine, which, together, illustrate the important features. The first group, of four farms, lies near the Tyne with a considerable portion of its land below the 500 ft. contour. The first three of these farms - Woodhall, Willimontswyke, and Partridge Nest were still being described as 'demesne' in 1691, and even the fourth - Whitshields - does not appear to have been a normal tenant/copyholders property.

The second group of four farms lies just south of Hadrian's Wall in the eastern part of the district. Three of these - Bradley Hall, Millhills and High Shield were, prior to enclosure, all of similar size at about 80 to 90 acres, and the fourth, although larger at nearly 150, included in that total before the division of Thorngrafton Fell in 1797 some 60 acres which in all probability came from an earlier division of Ridley Common.

The last farm - Wealside - was overwhelmingly the result of common enclosure, for out of its 600 acres in 1800 only 12 acres were ancient enclosure. It is as such representative of many of the very big sheep farms in the north of the district, where there had been throughout the 18th century a nucleus of enclosed land from which the shepherd/tenant managed flocks grazing on the surrounding unstinted commons.

Except for Willimontswyke ('A') and Partridge Nest ('B'), every farm on this estate was affected to varying degrees by the division of Commons. In the 1780s Henshaw and Melkridge open fields and commons were divided

with allotments being finally settled in 1788, and during the next decade Grindon and Thorngrafton followed, being completed by 1797. Since the Blacketts were Lords of the manors of Henshaw, Melkridge and Thorngrafton, their support for such changes was essential, and despite considerable ill-feeling generated by opposition to some of their claims, they never wavered in their belief that enclosure was worth while. The reasons for this support as expressed by George Bates in 1782 when the question of Henshaw and Melkridge was first raised, could have been taken almost verbatim from Arthur Young, with stress being laid on the fact that 'commons are rather a loss than an advantage to the proprietors of enclosed lands' on the grounds of disease among common-grazed livestock, lack of effective control, inadequacy of manuring and inability to initiate any improvement.

Since important changes in size took place on every farm at some point between 1700 and 1850, brief notes on the more important events in their history will be given, which should be borne in mind when looking at the graphs of the rents as well as the subsequent rent indices. In each case these notes will be allied to a reference to the letter of the particular graph relevant to the farm in question.

Graph 'A' (over) is for Willimontswyke. Prior to 1771 this farm was held with Partridge Nest, the two being then known as Willimontswyke East and West farms. Along with this joint holding under one rent came the large sheep farm of Gibbshill. On the basis of a valuation of 1769 and the rent payable for the separated holdings after that date, the rent per acre before 1771 has been calculated on the 80% of the gross rent, which the two valley farms appear to have been responsible for. After 1771 the

WEST WATER DISTRICT.

'A' Willimontswyke farm. 350 acres post 1771(see text). Liable for petty tythes only.

'B' Partridge Nest farm. 225 acres post 1771 (see text). Liable for petty tythes only.

'C' Woodhall farm (Melkridge). c.90 acres pre 1788. 197 acres post 1788. Tythe free.

'D' Whitshields farm. c 70 acres pre 1797; 217 acres post 1797. Liable for petty tythes only.

30/ 25/ 20/ 15/ 10/ 5/ 3/ 2/6

30/ 20/ 10/ 7/ 5/ 4/ 3/

1700 1720 1740 1760 1780 1800 1820 1840 1710 1730 1750 1770 1790 1810 1830 1850

farm separated from Partridge Nest comprised some 350 acres, and in 1788, 1803 and 1816 was let by tender with a change of tenant in each case. All other changes of rent or tenant were arrived at by private agreement. Although under different leases the tenants of this farm up till 1848 were also farming one or other of the large sheep farms beyond the Wall. One noticeable fact when advertized is that it never attracted more than four bidders, but these came from a wide area. Lastly in common with Partridge Nest ('B') and Woodhall ('C') this farm was severely affected by flooding, particularly in 1771 and 1815.

Graph 'B' refers to the other half of the pre-1771 Willimontswyke holding - Partridge Nest. Even after that date, in most respects its history is similar to that of Willimontswyke. Letting by tender occurred in 1788, 1803 and 1812, but on the first occasion despite the fact that his bid was the lowest of the four received, the sitting tenant was successful. Heavy arrears were contracted in the years 1781-83 (£127 by Mayday 1783 when the rent was £100 p.a.) and again in 1816-17 (£662 at Mayday 1817, rent £300.p.a.), but on both occasions the tenant was given time and the arrears were ultimately paid off. After 1771 the size of the farm remained unchanged at 225 acres.

Graph 'C' for Woodhall farm (Melkridge) shows clearly the effect of the change in size following the division in 1788. Prior to that date the holding was of about 90 acres of enclosed land with which went grazing rights. On enclosure as well as the allotment for the actual farm based on its rent some part of the 'Lord's Sixteenth' was also attached to this farm. These new allotments totalling 105 acres lay between one

and two miles from the old holding and were for the most part of relatively infertile land. In 1829 a detailed valuation reveals that of the £210 for the whole farm the allotments were worth only £50. In other words 46.5% of the farm(the ancient enclosures) was responsible for 76% of the rent at an average of nearly 35/- per acre, while the remaining 53.5% of the land was responsible for only 24% of the rent at an average of 9/6d per acre. Any assumption as to the proportions of the pre-enclosure rent without evidence of this nature would be rash, so although the rent per acre prior to 1788 is given it has been calculated on the assumption - admittedly untenable - that no part of the rent was for the unstinted grazing rights. Such a procedure can only be defended on the grounds that to supply a constant notional figure without evidence would be if anything even less realistic, and as they stand the figures do give a rough indication of both the size and the timing of changes. Because of this, the index for this farm is given in two forms: the first covering the whole period 1700-1850 on the basis of the total rent in 1760 equalling 100; the second covering the period after 1788 for which the rent per acre in 1800 is the basis. (This date is chosen so that the resulting figures can be compared with the next farm where enclosure took place in 1797).

For Whitshields farm - Graph 'D' - the general pattern is similar to that described for Woodhall, though in this case the whole of the 'Lord's Sixteenth' was added to this farm in 1797. No survey of the farm has survived, so that,save for the knowledge that 147 acres out of the 217 acres post-1800 were new allotments (and hence by subtraction that the previous holding was of about 70 acres), nothing can be said and

there is no basis for analysis. Despite this, two indices based on the total rent in 1760 and the rent per acre in 1800 - as for Woodhall - are given.

One further point that should be made before the indices are given is that, except for Woodhall, the rents per acre circa 1760 were very much lower than among farms further east that would appear to be of similar quality. The evidence does not allow us to say how far this comes from the relative backwardness of farming practice here, or from the greater problems to be faced in getting produce to market. On the former it is noteworthy that in 1769 when George Bates surveyed and valued Willimontswyke and Partridge Nest, he particularly noted that 'it is capable of great improvement, the lands being too much in tillage where good and no plowing on the high poor grounds, very little lime has been laid on... All the grounds are in very bad husbandry'. On the latter Sir Edward Blackett during the 1830s was a strong supporter of the Carlisle-Newcastle railway - 'as it will afford such benefits to my tenants near Haltwhistle'.

West Water District: Rent indices 1700-1800 (Valley farms old enclosed land only)

'A' Willimontswyke farm	100	- 5/8 per acre
'B' Partridge Nest farm	100	- 5/8 per acre
'C' Woodhall farm	100	- £50 (10/10 per acre)
'D' Whitshields farm	100	- £23 (6/6 per acre)

Year	'A'	'B'	'C'	'D'	Year	'A'	'B'	'C'	'D'
1700	48	48	60	41	1760	100	100	100	100
1710	55	55	50	41	1770	100	100	108	122
1740	?	?	?	78	1780	143	143	128	152
1750	100	100	70	78	1790	178	186	162	152
					1795	178	186	162	183

The main features to come from these indices are that, despite the

difference in the rents per acre in 1760, all four farms behaved in a similar manner, and paradoxically that on the one farm where enclosure affected size before the last letting of the century ('C') the 1795 index figure was lowest. In general, there is evidence that there had here been a doubling of rents between 1700 and 1760 and that during the succeeding thirty years further substantial increases took place. Except that the basis for the indices is only half the rent per acre being paid among the valley farms near Corbridge (see p.326 above), the closest conformity is with that type. Even so, there are important differences, notably the absence of the very marked increase between 1760 and 1780 present further east and the presence of significant further increases between 1780 and 1790 absent elsewhere. The present sample is too small to enable one to be dogmatic about suggesting that this represents sufficiently significant differences to make it necessary to think of them as representing a distinct type, but this may well prove to be the case.

When one turns to the 19th century the pattern becomes much more confused, and in order that comparisons may be more readily made two indices are given for each of the four farms.

West Water District: Rent Indices 1800-1850. (Valley farms).

1. Indices based on 1760 irrespective of changes in acreage (see text)
2. Indices based on rent per acre payable in 1800.

Bases for 1. - as for indices 1700-1800.
Bases for 2. - 'A' - 10/- per acre; 'B' - 10/6 per acre;
'C' - 8/3 per acre; 'D' - 4/- per acre.

	Index 1				Index 2			
Year	'A'	'B'	'C'	'D'	'A'	'B'	'C'	'D'
1800	178	186	162	183	100	100	100	100
1805	324	349	400	183	209	188	248	100
1810	324	349	400	654	209	188	248	356
1815/16	452	476	600	654	253	256	371	356
1820	402	314	400	479	225	169	248	262
1825	286	284	370	435	169	153	229	236
1830	393	349	420	523	220	188	261	282
1840	393	333	396	479	220	179	243	262
1850	323	333	372	479	202	179	231	262

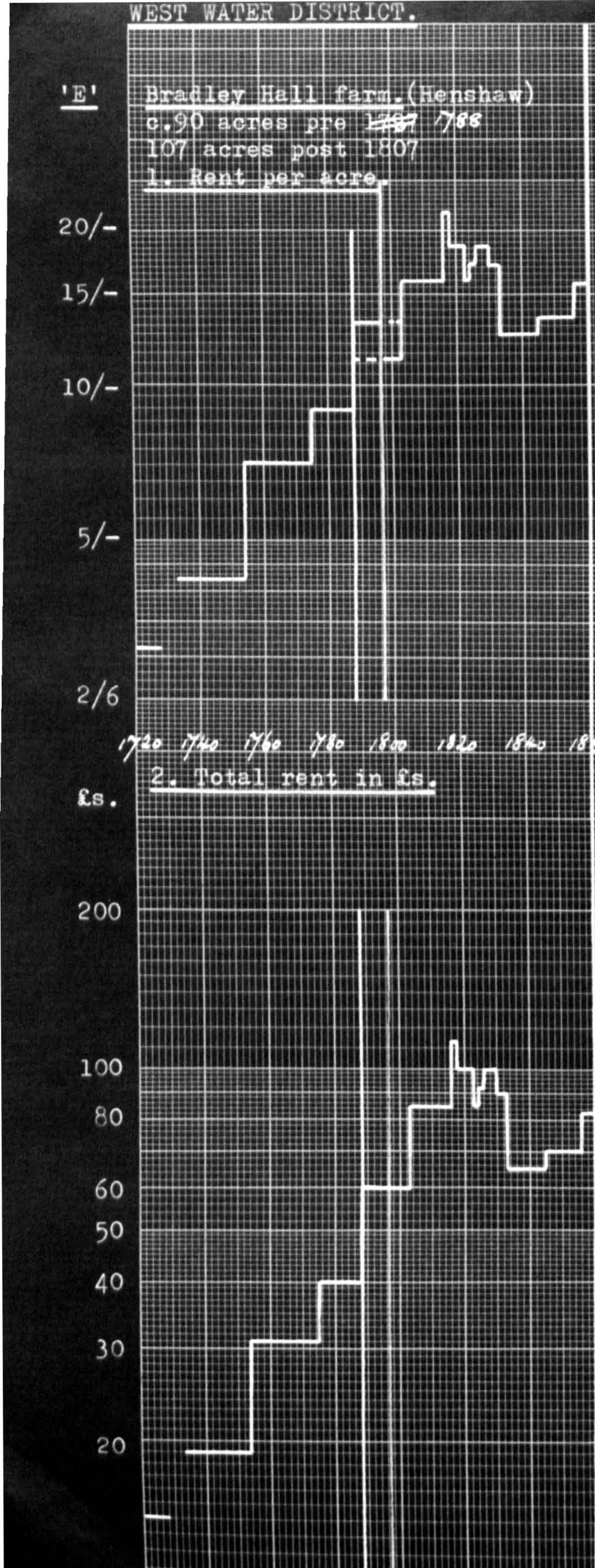
The differences between the indices for 'A' and 'B' in the second Index and those for 'C' and 'D' would appear to be the measure of the extent to which the new allotments could be improved more than better husbandry could improve the old enclosed lands. The differences between the same pairs shown very clearly in Index 1 reflect this and the increased acreage of those farms to which allotments were granted.

Powerful statistical processes would obtain from these figures further results, but are beyond the scope of this study, yet even simple mathematical analysis shows a number of interesting features. The war-time increases on the first two farms of about 150% contrast with the 250% to 270% of the others, for which timing cannot offer a reason and only the presence of land capable of being made more productive can. The extent to which such improvements were permanent can be suggested by the fact that although the war-time increase was so much greater, the post-war decline still left the two farms 'C' and 'D' in 1850 with rents per acre significantly higher in terms of those being paid in 1800. A comparison with the farms in the Langley Barony District (p.356)shows that the 19th century pattern is very similar in the two districts, and that where enclosure did not affect size, despite the fact that the rents per acre in 1760 were very different, the overall pattern 1700-1850 is also similar. Where they differ, as for example in the greater resilience of rents in the post-war period in the West Water District, there is no evidence to suggest the reason.

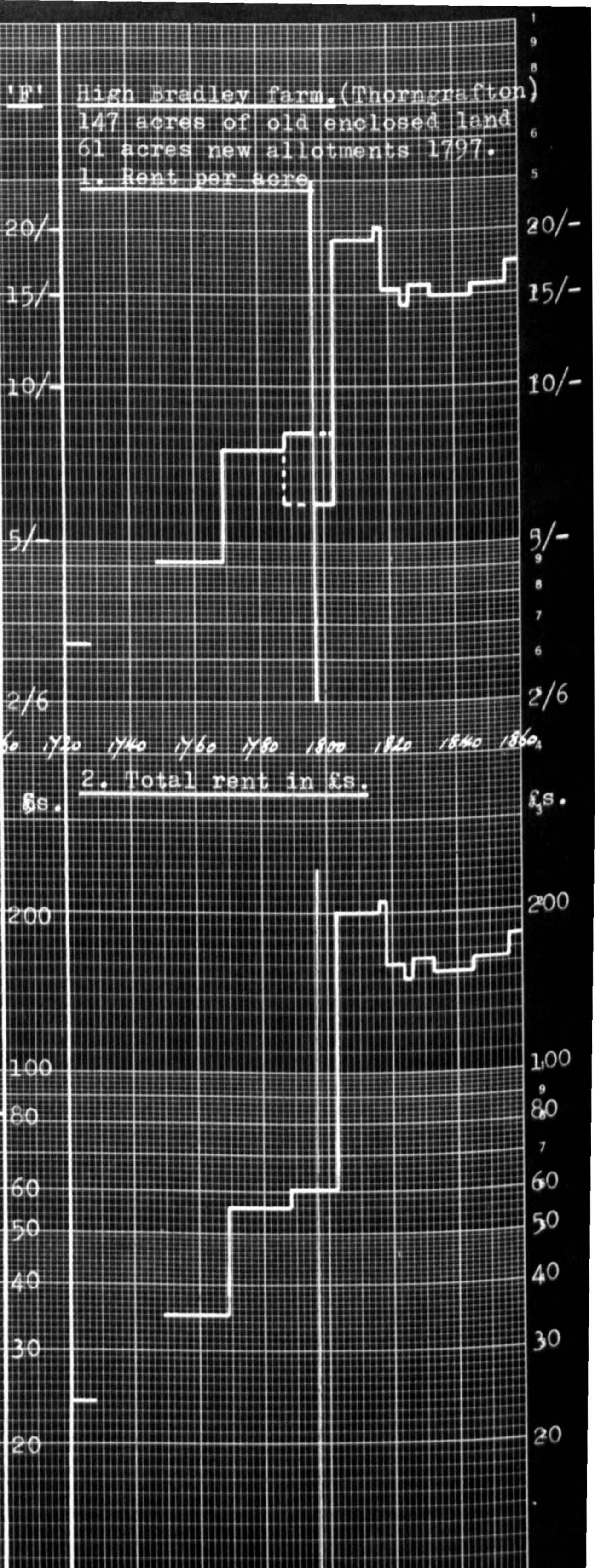
Possibly because of the lower rent per acre payable in 1760 the index figures for all these farms (when allowances have been made for Divisions) over the period 1700-1850 seem to exhibit sufficient differences to suggest a factor such as the distance from the market of Newcastle

WEST WATER DISTRICT.

'E' Bradley Hall farm. (Henshaw)
c.90 acres pre ~~1807~~ 1765
107 acres post 1807
1. Rent per acre.



'F' High Bradley farm. (Thorngrafton)
147 acres of old enclosed land
61 acres new allotments 1797.
1. Rent per acre



was of great importance. If this is the case and they do represent a distinct 'type' then the evidence from the other farms in the district which were also far removed from Newcastle should be able to support such a suggestion.

For this next group of four farms two graphs, one of the rent per acre and the other of the total rent, are given for each. The reason for this is that in every case, allotments were added from the surrounding Commons, but the quality and quantity of these varied. The danger of the use of a graph of the total rent is that it suggests that the allotments were exactly equivalent in value to the previous grazing rights which they clearly were not.

Graphs 'E' refer to Bradley Hall farm which received in 1788 a small allotment of 16 acres. In this case this was only a small part of the land actually allotted in respect of the farm, but as the remainder lay at a considerable distance near Greenlee farm, which happened to have the same tenant, only this part remained attached to the farm, the rest going to Greenlee. In 1829 this 16 acres, representing 15½% of the whole 107 acre farm, was valued as being responsible for only 9% of the total rent of £100. At 12/- per acre it compared very unfavourably with the 27 acres at 25/-, or even the 56 acres at 18/-. In 1775 the sitting tenant, after some hesitation, took the farm without there being any advertisement, but in 1803 and 1816 it was let by tender. In the latter year there were eight bidders, all of whom offered more than the existing rent, but the successful one was only the third highest at £116, as against £126 offered by one of his fellows.

The second farm lay next door to Bradley Hall and was known either

WEST WATER DISTRICT.

'G' Millhills farm, (Thorgrafton)
82 acres pre 1797. Liable to
148 acres post 1797. petty tythes.
1. Rent per acre.

'H' High Shield farm, (Henshaw).
c.80 acres pre 1797.
212 acres post 1797.
1. Rent per acre.

25/- 20/- 15/- 10/- 5/- 4/- 3/-

1720 1740 1760 1780 1800 1820 1840 1860

2. Total rent in £s.

£s. 200 150 100 80 60 50 40 30 20 10

1720 1740 1760 1780 1800 1820 1840 1860

as High Bradley or Bradley Green (graphs 'F'). Despite its proximity it lay in Thorngrafton not Henshaw, and it was not until 1797 that it was affected by enclosure. As was suggested above, it may well be that out of the 150 acres prior to 1797 some 60 acres came from some previous unrecorded division of Ridley common. In 1829 the 61 acres of land allotted in 1797 were valued at 15/9 per acre, as against the 18/3 for the rest of the farm. Between 1797 and 1800 the Blacketts spent over £220 on hedging, liming and draining the new allotments, on which they charged 4½% p.a, so that while the lease rent remained unchanged at £61 the actual money due from the tenant rose to over £70 p.a. Finally, it is worth noting that although re-let by advertisement and tender in 1788, 1803 and 1816, the only bid in every case came from the sitting tenant and was accepted.

The third farm, Millhills by Grindon, whose graph is opposite ('G') must not be confused with the Mill Hills near Haydon Bridge less than five miles away. Although in Thorngrafton township it failed to sustain its claim to common rights on that township's common, but did receive in 1797 40 acres from Grindon and the 25 acres from Thorngrafton allotted in respect of another holding of the Blacketts. The only detailed valuation to have survived is for 1769, but this has some interest since, although the fact that it had rights on Grindon Common was noted, no adjustment in the valuation was made and the whole value was based on the enclosed lands. The rental history of this farm is made more interesting by the fact that it lay immediately to the north of Beamwham farm belonging to Greenwich Hospital, where the rent increases were so staggering, (see pp.360-361). Like its neighbours it was let by tender in 1788,

1803 and 1816, at which last it attracted no fewer than seventeen bidders including two from as far away as Corbridge.

The last farm in the group, High Shield (graph 'H') lay to the north and west of the two Bradley farms. In 1788 it was allotted 100 acres from Henshaw Common. There is contradictory evidence as to the size of this farm, with the rentals giving it as 212 acres and the valuation of 1829 only mentioning 178 acres. The missing 32 acres almost certainly were the holding of Guildfield which had been a separate farm, but after 1788 always let with High Shield. It is on this assumption that both the graphs and the indices have been calculated. In 1829 the 78 acres of ancient enclosure then covered were valued at £61, or 15/6d per acre (although the total rent for the larger unit of 212 acres was only £60) and the 100 acres of allotments were thought worth £30, or 6/- per acre.

As with the farms near the Tyne, and for the same reasons, the indices have to be given in two forms. The first takes the total rent in 1760 as the base 100 and covers the whole period 1700-1850, while the second taking the rent per acre in 1800 as the base 100 covers only the 19th century. Since in two of the cases there was no re-letting after enclosure before 1800, the first index can also be said during the pre-enclosure period to be based on the per acre rent in 1760 so this is also given.

West Water District: Rent Index 1700-1800: Farms on the high ground south of Hadrian's Wall.

'E' Bradley Hall Farm	(90 acres pre 1788)	100 - £32 or 7/1 per acre
'F' High Bradley Farm	(147 acres pre 1797)	100 - £35 or 4/8 per acre
'G' Millhills Farm	(c.83 acres pre 1797)	100 - £22 or 5/5 per acre
'H' High Shield Farm	(?90 acres pre 1788)	100 - £19 or 3/7 per acre

Year	'E'	'F'	'G'	'H'	Year	'E'	'F'	'G'	'H'
1700	38	63	82	45	1760	100	100	100	100
1710	44	69	86	55	1770	100	160	191	137
1740	59	?	?	?	1780	125	160	218	153
1750	59	100	100	100	1790/1800	(188)	174	225	(263)

The first thing of note about these indices is that except at Millhills ('G') there was a very considerable increase between 1700 and 1760, and that the absence of such a rise at Millhills and the rather smaller rise at High Bradley ('F') is made good by 1770 when the index figures for those two farms are noticeably higher than is the case with Bradley Hall ('E') and High Shield ('H'). Secondly, the higher rent per acre in 1760 for 'E' is followed, even allowing for the letting of 1788, including common allotments, by a less pronounced increase by 1800 than at 'G' where there was no common allotment or 'H' where there was. It would seem that in 1760 the rent of 5/5 per acre for 'G' was well below its true economic value so that in its case the index figures are inflated. For 'H' the effect of increased size after 1788 is clearly reflected in the index figure rising from 153 to 263. Before attempting to draw any conclusions from these figures it will be as well to deal with the period after 1800.

West Water District: Rent Indices 1800-1850: Farms on the high ground South of Hadrian's Wall.

Indices 1. Based on rent in 1760 - 100: 'E' - £32; 'F' - £35; 'G' - £22; 'H' - £19.

Indices 2. Based on rent per acre in 1800 following common division.

'E' Bradley Hall farm (107 acres) - 11/3 per acre (84% old enclosure)
'F' High Bradley farm (213 acres) - 5/11 per acre (71% old enclosure)
'G' Millhills farm (148 acres) - 6/9 per acre (56% old enclosure)
'H' High Shield farm (212 acres) - 4/8 per acre (42½% old enclosure)

	Index 1				Index 2			
Year	'E'	'F'	'G'	'H'	'E'	'F'	'G'	'H'
1800	188	174	225	263	100	100	100	100
1805/10	266	572	641	479	143	326	285	182
1815/16	352	600	700	553	193	342	311	210
1820	313	457	477	342	166	261	211	130
1825	288	429	445	316	153	244	198	120
1830	313	472	546/818)	316	166	268	242/364)	120
1840	203	443	636	316	108	253	283	120
1850	219	472	636	316	117	268	283	120

These figures show conclusively that to take the proportional areas of new and old enclosures as a simple guide to probable effect of common divisions is impossible. The farms were placed in their existing order on the basis of this proportion with 'E' having the highest percentage of old enclosure and 'H' the lowest, and yet there is no simple increase in the index figures from 'E' to 'H'. On the contrary, the similarity between 'E' and 'H' in Index 2, is parallelled by that between 'F' and 'G' despite disparity in the proportions of old and new enclosures. This largely results from the fact that by 1800 much of the possible improvement that could be made to the allotments from Henshaw to 'E' and 'H' in 1788 had already been made, while no such improvement had taken place on the grounds only divided in 1797.

As already noted, the allotments to 'H' were even in 1829 worth only 6/- per acre, while those to 'F' were by then worth 15/9, and the Grindon allotment to Millhills ('G') was, according to George Bates, the 'best land on the common'. The similarity between the indices for 'E' and 'H' arises from the fact that although the proportions of such new allotments varied in terms of size, in terms of value they were similar. The 200% increase in rents between 1800 and 1816 at 'F' and 'G', twice as much as on the other two farms, is not followed by a more pronounced decline after the war, so that while they remained in 1850 more than 150% above the 1800 figure the other two were only 17% and 20% higher.

In the 150 years after 1700, the rent at Bradley Hall, even with an increase in size of nearly 20%, rose by not quite six times, from £12 to £70, compared with the seven fold increase at High Shield where the farm increased in size by over 100%.

In view of the evidence from these four farms, the pattern

exhibited at Beamwham can be seen to have been not an isolated case. Here, land of a type, which existing techniques could readily improve after enclosure, provided the basis for rent increases during the 19th century which are not found elsewhere. The same sort of thing took place at Woodhall ('C') and Whitshields ('D'), but in the absence of sufficiently detailed information it is not possible to suggest a formula by which the expected increases in rent can be interpolated.

From the eight farms examined in detail, and the others on this estate, some interesting general features can now be described for this district. Except for Woodhall it is very noticeable that the rent per acre for the best farms near the Tyne circa 1750/1760 was very little higher than that being paid for the inferior lands near the Wall. Despite this, no very marked difference emerged in the rental patterns of the two groups prior to 1800. It does, therefore, appear that where the rent in 1760 was approximately the same as the real value, the following index can be suggested as covering the 'normal' limits.

West Water District: Rent Index 1700-1800: Limits of normality.
100-rent per acre for old enclosed land in 1760 between 4/- and 7/-

Year	From	To	Year	From	To	Year	From	To
1700	40	60	1750	70	100	1780	125	160
1710	40	70	1760	100	100	1790	150	190
1740	(60	80)	1770	100	140			

Within such limits over 90% of the farms on this estate fall, and even among the 10% of exceptions there are strong reasons to suspect 'abnormality'. These same limits would also suit the bulk of the farms in the Langley Barony district, except in 1780 and 1790. They differ from any of the Corbridge Hexham area groups, either because of the low rent per acre in 1760, or for more obvious reasons, such as the lowness of the

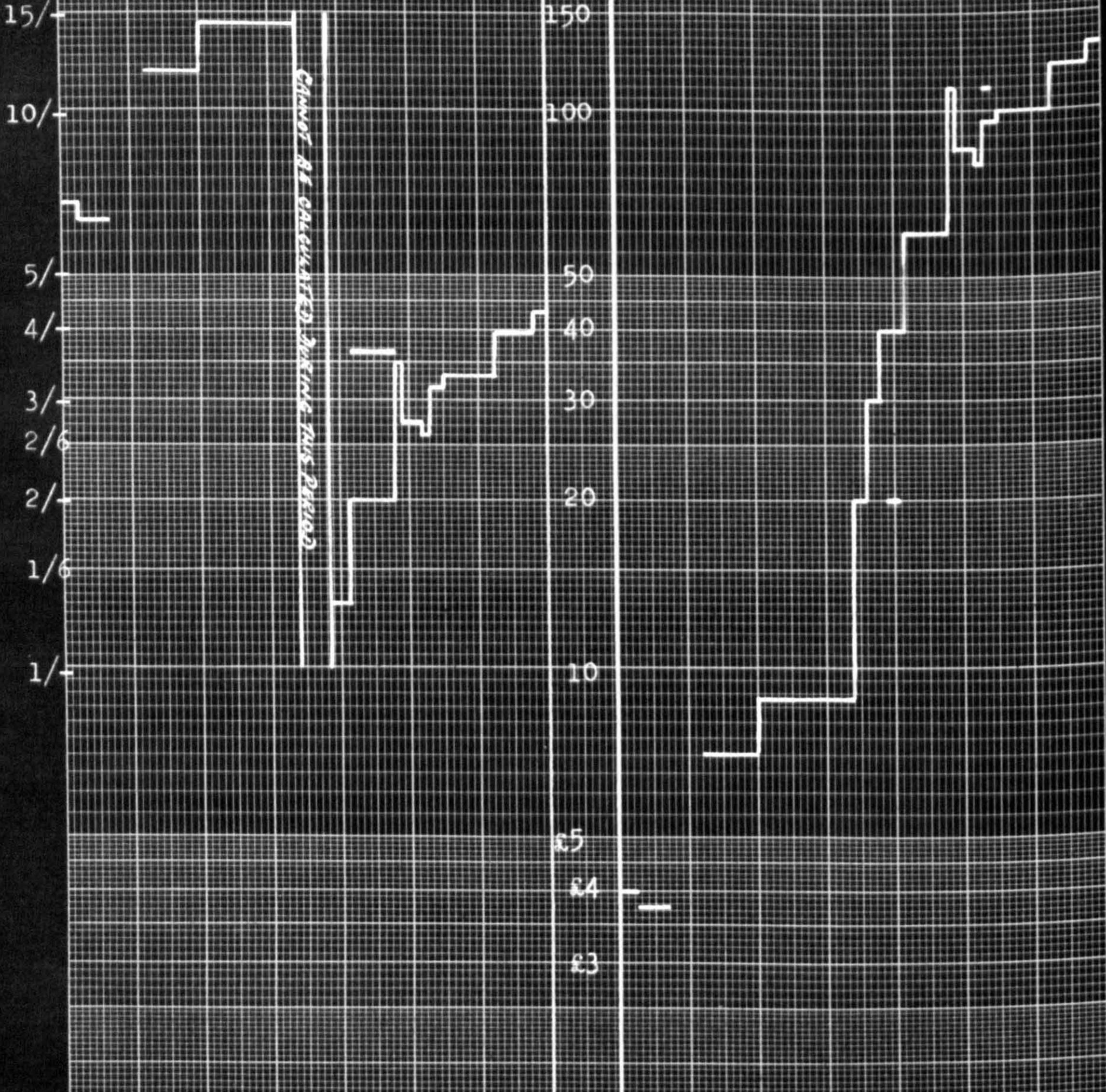
WEST WATER DISTRICT.

'J' Wealside farm.(Melkridge)

12 acres enclosed land prior to 1797. But with grazing rights over the surrounding common. Post 1797 acreage 602 acres. Tythe free.

1. Rent per acre on enclosed land.

2. Total rent in £s.



1780 and 1790 figures. It does therefore appear that the 18th century pattern of rents in this district has a number of particular features which must tentatively be ascribed to its geographical location vis a vis Newcastle.

During the 19th century the position is made so complicated by the effects of enclosure that no single index can cover all the range of possible 'normality'. Where considerable quantities of improvable land were allotted to any farm the overall rent increases between 1800 and 1850 exceeded 150%, where no enclosure took place the increase during the same period was in the two cases where such criteria apply, 102% and 79%. In other cases, where either the land allotted was unimprovable or such improvements as could be made had already been made by 1800, the increase between 1800 and 1850 was less than 25%. Any attempt to establish 'normality' under such a range is clearly impracticable.

From this analysis I have so far excluded the large sheep farms to the north of Hadrian's Wall. Among these the old enclosed land was usually less than 10% of the post-1800 holding, and they present a number of particular problems of interpretation.

The graphs opposite refer to just such a farm which has been selected for the useful but unrepresentative fact that it was never held under a single rent with any other farm. In 1691 the tenant and holding were described thus 'Dixon's widow,farmer of a tenement called the Wealside, of a close of meadow and (having) common-right (~~sic~~) unstinted on Melkridge Common'. 130 years later in 1829 the now greatly enlarged farm was surveyed and valued enclosure by enclosure, and it is noteworthy that

the old Wealside close was not thought worth as much as one of the recent enclosures.

Wealside farm: Valuation 1829.

Wealside old close	11	acres @ 5/- per acre	£2.15. 0
Allot West of Wealside	3	acres @ 10/- " "	1.10. 0
Ditto.East Do.	4	acres @ 2/6 " "	10. 0
Ditto.North Do.	50	acres @ 4/- " "	10.10. 0
Ditto.joining Gibshill	533	acres @ 3/6 " "	93. 5. 6
	601	acres (average 3/7)	£108. 0. 6

It is obvious that whoever was tenant of the old close made his or her living from the surrounding common, but to what extent the 590 acres of allotment represented the ground over which the previous tenants' sheep flocks had grazed cannot be determined. The year 1788 when the allotment was added to this farm clearly marks the division between two holdings which in all but name are entirely different. For the pre-enclosure holding the rent rose from £3.10s. to £4 in 1700, only to fall again five years later to £3.15s., with a change of tenant on each occasion. When the next rent figure is known in 1756 it had risen to £7, and in 1760 it was let for twenty-one years for £8.15s. There is no reason to suppose that any significant change in either the area of enclosed lands, or the available grazing, had occurred during this period so that the £8.15s. can be realistically compared with the £4 of 1700.

Before the twenty-one years of the 1760 lease had expired the commons were divided, and in 1788 the son of the existing tenant signed what Bates called an 'improving lease'. Under its terms the rent for the first three years of the 12 was to be £20, for the second three £25, for the third three £30 and the last three £40. The tenant's chances of paying the increases were virtually destroyed when his flock was severely affected

with the rot in 1793 and again in 1797. In fact by 1800 he was in arrears to the tune of £36, yet he was allowed to continue till 1803. In that year, following tenders, the farm was let to a certain John Ridley Esq., who was in fact the father of the man who was to become Bates's assistant and successor. The rent at that time rose to £60, but Ridley never intended to live there and a shepherd was installed as bailiff. In 1816 it was again let by tender, this time with John Ridley, jun., acting as agent, and there were no fewer than thirteen bidders. It was agreed beforehand that the successful bidder should have the option to purchase the flock of improved sheep that had been introduced by Ridley, and this, coupled with the fact that a great deal of drainage had been carried out on the farm in the years when John Ridley jun. was in charge of that side of the estate management, may account for the very great increase in rent to £110.

The new tenant, Walter Armstrong, was in fact the shepherd who had run the farm for the last 13 years, now established as a tenant in his own right. After only one year the rent was reduced to £85, falling in 1824 even further to £80. In 1826 a new agreement raised the rent to £96, during the lifetime of the then ageing Armstrong, and an undertaking entered into that on his death his only daughter's husband should have the farm at a rent to be agreed by him and Sir Edward Blackett. In 1830 this man, Adam Little, who had also been up to that time a hired shepherd, came to the farm at a rent of £100. Fifteen years later Adam was joined in the lease by his son William and the rent raised to £120.

In the case of Walter Armstrong the money which he needed to borrow to set himself up came from none other than Lady Blackett herself, on the

strong recommendation of both Bates and Ridley, and it is interesting to note that he had paid the whole £250 off by 1826.

I have gone into this detail since there are a number of similar cases where shepherds who had run these big sheep walks converted themselves into independent tenants, often with the help of either their former employers or, as here, of their landlord.

The post enclosure rent index for this farm, starting with the £20 agreed for the first three years of the 'improving lease', shows a distinctiveness which is however closely similar to the other sheep farms nearby.

West Water District: Rent Index 1788-1880: Wealside farm. (A large sheep farm largely enclosed in 1788 from Melkridge Common).

Base £20 rent p.a. 1788-1791:- 100 (600 acres)

Period	Index	Period	Index	Period	Index
1788-91	100	1803-16	300	1826-30	480
1791-94	125	1816-17	550	1830-45	500
1794-97	150	1817-24	425	1845-56	600
1797-1803	200	1824-26	400	1856-64	650
				1864-79	675

This farm's rent increases after 1780 are a measure of the effect of enclosure on land that had up till then been virtually entirely unenclosed. From about 1/4 per acre in 1780 the land's value rose to very nearly 4/- per acre after 1845. For neither this nor any of the other similarly situated farms is it possible to determine how much of the increase was due to livestock improvements coupled with relatively buoyant wool prices after 1815, and how much to the physical improvement of the land by drainage, liming and the provision of occasional plantations which could afford shelter.

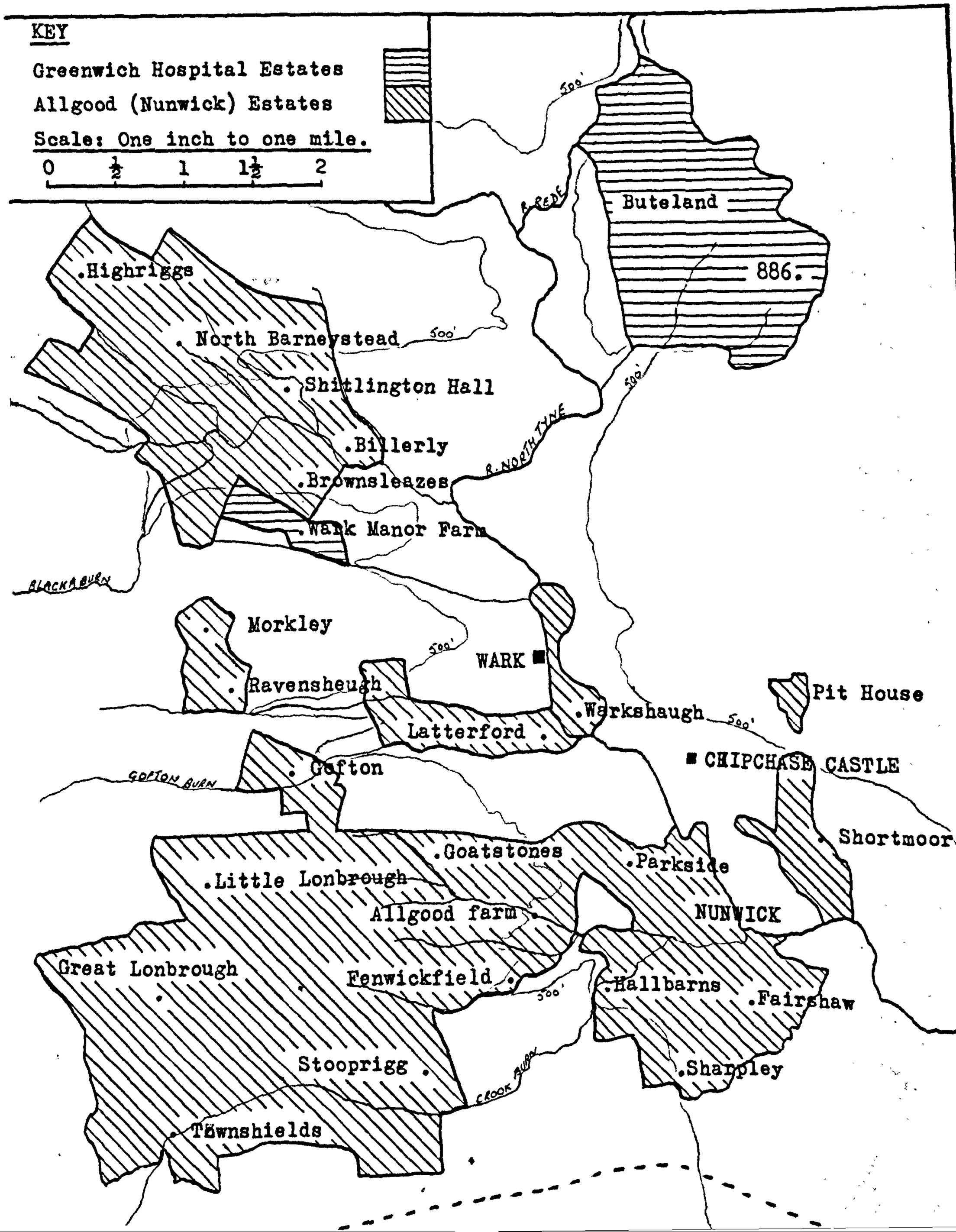
To the landlord who received such tracts of country as allotments they were a source of a rapidly expanding net income which seemed to have repaid heavy investment more handsomely than any other sort of land. At Wealside the total investment between 1780 and 1850, including a new house as well as walls, came to less than £500, while during the same period the income from rent came to over £4,500. In view of this, it is scarcely surprising that Sir Edward Blackett engaged in a number of purchases of similar properties.

In conclusion for this district it can be seen that the effects of enclosure are so universally felt, yet so diverse in their intensity and form that it is quite impossible to move with safety from the affairs of each individual farm towards any generalisation. Unless the historian can obtain very detailed information he cannot with safety draw even tentative conclusions from the known rent history of even a single farm. The comparison of the thirty or more holdings on this part of the Blackett estate reveals almost as many rent patterns existing as farms for the post enclosure period. Where similarities occur superficially, as for example in the indices of Bradley Hall and High Shield, these are often the result of accidental factors rather than real similarity of all conditions. Against this, prior to enclosure, there does appear to be a well defined pattern common to nearly all the farms in the district irrespective of their size or situation. This pattern shows sufficient distinctive features to warrant the suggestion that it represents a true localized 'type'.

Yet again the importance of very close examination if error is to be avoided is demonstrated, and such an examination requires the fullest

evidence. Even the rich Matfen source material tantalises by suggesting answers which in turn make the absence of yet more evidence more to be deplored. It may well, of course, be the case that the evidence never existed, and even more probable that it will never turn up now. This does not allow the historian to make up plausible hypotheses, rather does it enjoin him to be satisfied with 'I do not know'.

THE NORTH TYNE DISTRICT.



Section IV. Part 3.

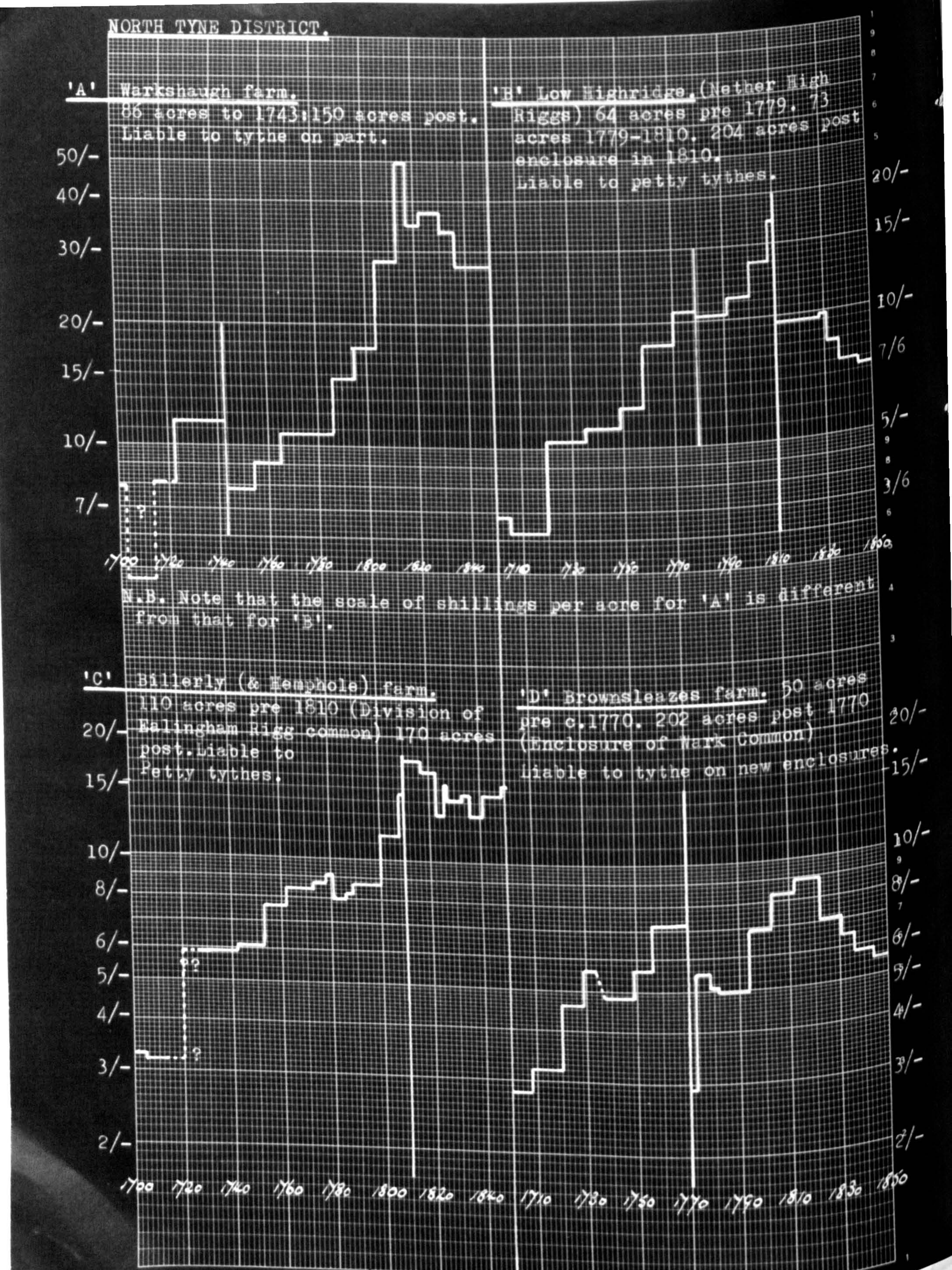
The North Tyne District

The absence of correspondence, cropping books and valuations for the Allgood estate is the more regrettable since the rental evidence after 1700 is unrivalled for continuity. The information available for price changes has already been examined and, that apart, almost the only evidence we have for the farms shown on the map is their rents and the names of their tenants. Because of this, while the course of rents can be examined in detail, the analysis of causes must for the most part be general.

From the forty farms on the estate, eight mixed arable farms and three large sheep walks have been selected. Two of these last three and the one Blackett farm of Crookbank lie off the map to the west, but the fourth, Townshields, is shown in the south-west corner. Of the rest, one, Warkshaugh farm, lies on the east bank of the Tyne opposite the town of Wark, and three, Billerly, Brownsleazes, and Low Highriggs, in the north-western part of the estate known as Shitlington Lordship. Three more, Hallbarns, Sharpley and Parkside, are near Nunwick itself, and the last, Latterford, is about two miles further north on the west bank of the river, south of the town of Wark. Except for the sheep farms and Low Highriggs, they all have a large proportion of their land below the 500 ft. contour, and to varying extents depended on corn growing.

The first four farms, the graphs of whose rents are given over the page, are Warkshaugh and the three farms in Shitlington Lordship. Graph 'A' refers to Warkshaugh farm which is unique on the estate for two things, the first that its rent rose to over 40/- per acre, and the second that the same family were tenants from at least 1739 till 1850. In the

NORTH TYNE DISTRICT.



N.B. Note that the scale of shillings per acre for 'A' is different from that for 'B'.

period before 1743 the farm was 86 acres, but in that year Birkley Wood was added and the tenant allowed 1/- per acre for clearing the 'stubbed ground'. By 1770, as a result of this process, the farm had increased in size to 150 acres at which it remained.

Low Highriggs farm (Graph 'B') is also remarkable for the continuity of its tenants, with only two families during the whole period. In 1799 it was valued at £50, of which £8.10s. was for its common rights. In 1810 it was let with an allotment of the same common then being divided, and its acreage in the rentals rose from 73 to 204 acres.

Billerly farm (Graph 'C') has already been noted for the frequency with which its tenants changed. When the same Ealingham Rigg common was divided in 1810 the size of this farm rose from 110 to 170 acres. Inventories taken in 1777 and 1816 have survived which are of considerable interest.

1. Billerly farm: Inventory Oct.11th 1777 for £147 rent and arrears.
Rent 1773-78 £48 p.a.

(a) Cattle	Six cows, one bull, 1 ox. (1 cow belonging to the hind)
(b) Horses	One horse, three mares
(c) Sheep	60 hoggs, 4 dinmonts, one gimmer and one pet ewe
(d) Swine	1 sow and 8 young shotts
(e) Corn	2 barley stacks, one wheat stack, one maslin stack, 2 oat stacks, 2 pea stacks, 20 thrave of wheat in the barn
(f) Hay	One haystack and about 12 loads in the barn
(g) Miscellaneous	26 geese, 12 ducks and a number of hens.
	One ewe and lamb on the common.

This stock failed to produce enough to cover the outstanding arrears and

£30 were never recovered. The most surprising thing in many ways is the fact that only one ewe and lamb were on the common. Even allowing for the fact that one cannot assess the degree of bankruptcy the list of 1777 contrasts in a number of respects with that of 1816 where again the tenant went bankrupt. In this latter case not only has the inventory survived but also the actual sale account.

2. Billerly Farm: Inventory and Sale Account Dec. 1816.
(Seized Dec.12th in the sum of £346:(Rent £150 p.a.) Sale Dec.18th)

Item	Details of Selected Items		Sale Receipt
(a)Husbandry Utensils	Coup,cart and wheels (£5); Long cart (51/-); Plow,coulter and sock (£2)		£17. 0. 0
(b)Cattle	7 calves (29/- to 16/- each) (quey calves) 2 two-year old queys (60/- & 59/- each) 6 milk cows (£5.16s. to £3.18s. each) 3 queys to calf (£7 to £4. 5s. each)	total	72.14. 0
(c)Horses	1 bay mare (£8. 6s.) 1 black mare (£5. 3s.) 1 mare and foal; 2 foals and two colts (from £3. 7s. to £2. 1s. each)	total	28. 3. 0
(d)Sheep	7 sheep of various sorts @ 15/6 each.	total	5. 8. 6
	N.B:In the inventory there were recorded 62 sheep taken in to winter @ 3/9 per head for wintering,not sold.		
(e)Swine	1 sow (expected to be with piggs)16/- 8 shotts (40/6 the lot) 2 feeding swine (17/- each)	total	4.10. 6
(f)Hay	1 round stack (£7.10s.)(old land hay) 1 long stack (£5.12s.)(clover hay)	total	13. 2. 0
(g)Corn	5 stacks of wheat listed only 3 sold (one @ £7.9s; one @ £5.12s; one @ £4.8s.) 6 stacks of oats (three common three potatoe oats) The common sold for £5 to £5.18s.per stack; the potatoe from £7.2s. to £8.3s. 4 stacks of mixed corn	total	71.17. 0
(h)Turnips	A quantity on the ground		13. 6. 0
		TOTAL	£226. 1. 0

From these two lists an idea can be gained of the main sources of

income on this farm - corn growing in particular, as well as the introduction by 1816 of new crops such as turnips, the improved potato, oats and clover. The last farm in this first group, Brownsleazes (graph 'D'), received circa 1770 an allotment of 160 acres from Wark common then divided, which meant that its size rose from about 40 acres to 200 acres. Here again an inventory has survived, from 1781, when the rent was £52 p.a. and the total debt £75. At the ensuing sale not all the stock was sold, since the debt was liquidated before all the items came up for sale. There were on the farm when the inventory was taken, 28 cattle of various sorts of which 12 were sold at prices ranging from £4. 6s. to £2 for the milk cows, and 15/- to 18/- for the calves. 15 horses, most of them mares and young fillies, were on the farm, but only four were sold at from £4. 5s. to 6/- for a lame mare. The bulk of the money came from the sale of corn, with five barley stacks fetching between them £16.13s; five oat stacks £17.13s; one wheat stack £3.10s. and one pea stack for £1.18s. In this case the very much higher level of stocking may well reflect more accurately the normal level among solvent tenants, but one of the most surprising things is the absence of sheep which would appear to be unrepresentative.

These inventories show, indirectly, the type of farming common among this group, as well as the prices the tenants received for their stock, though it must be remembered that the prices at such forced sales were lower than those prevailing on the open market. At Warkshaugh one suspects that grain growing was throughout the period by far the greatest source of income, but in the absence of evidence this can be no more than conjecture.

What then of their rents? That at Warkshaugh was after 1800 about

twice as high per acre as the other three farms, and the increase there without benefit of additional acreage between 1780 and 1812 was of a different order.

In the indices, that for Warkshaugh is based on the 1760 rent per acre for the enlarged holding for the period after 1760, and the figures for the smaller holding of the previous period on the total rent in 1760. For Low Highriggs and Billerly one set of figures is based on the 1760 rent per acre,and another on the total rent payable, so that after 1810 the two sets diverge. For Brownsleazes the pre-1770 index is based on the 1760 rent per acre and the post-1770 index on the 1770 rent per acre.

North Tyne District: Rent Indices: 1700-1850

'A'	Warkshaugh farm	100 - £68 or 9/2 per acre (rent in 1760)
'B'	Low Highriggs farm	100 - £28 or 8/9 per acre (rent in 1760)
'C'	Billerly farm	100 - £42 or 7/8 per acre (rent in 1760)
'D'	Brownsleazes farm	100 - a.£18 or 7/3 per acre(rent in 1760)
		b.£30 or 2/11 per acre(rent in 1770)

Year	'A'	'B'	'C'	'D'
1700	(47)	39	44	39
1710	(?)	35	42	39
1715	52	35	42	44
1725	74	60	64	64
1730	74	60	78	78
1740	74	64	78	67
1750	85	72	80	78
1760	100	100	100	a.100
1770	118	121	95	b.100
1780	118	121	120	173
1790	162	119	113	167
1800	192	119/130	151	234
1805	310	154	151	280

Year	'A'	'Ba'	'Bb'	'Ca'	'Cb'	'D'
1810	310	110	350	233	357	280
1815	544	110	350	233	357	300
1820	383	110	350	217	334	300
1825	411	110	350	171	262	240
1830	370	113	357	182	286	240
1835	370	96	304	192	293	216
1840	302	85	274	171	264	195
1850	302	84	265	202	310	187

Turning first to the figures for the 18th century, it is possible here to date much more precisely the increase that took place between 1700 and 1760. On every one of the farms a very substantial increase took place between 1715 and 1725, while during the next 25 years the increases were

relatively small. On the three farms other than Warkshaugh this meant that from about 3/- per acre in 1700 they had risen to between 5/- and 6/- by 1730 and during the next thirty years rose again to between 7/- and 9/-. After 1760 three different patterns emerge. At Warkshaugh after 1780 increases occurred which make its behaviour and rent per acre akin to that found among the rich valley farms near Dilston to which group, according to its rent, it clearly belongs. (see p.326 above). At Brownsleazes ('D') the bringing into cultivation of common allotments produced a very marked rise by 1780 absent from the other three farms, but thereafter its increase was more pedestrian. For the other two farms an increase up to 1780 was followed by 1790 by a small decline before the war's influence resulted in the rents in 1805 being half as much again as they had been in 1760.

During the 19th century Warkshaugh continued to follow the same pattern as the Tyne Valley farms near Corbridge, and at Brownsleazes after an increase of nearly 90% between 1790 and 1815 the rent declined till by 1850 it had fallen to very little above the 1780 figure. On the other two farms the increase in their total rent between 1790 and 1815 was of the order of 130%, some part of which must have resulted from enclosure. At Billerly it would seem that the additional 60 acres were capable of becoming comparable in quality with the old enclosures and no decrease in the per acre rent took place when they were added in 1810. At Highriggs, despite the fact that the actual rent rose in that year by 55% this was not enough to offset, from the point of view of the rent per acre, the addition of 130 acres, the bulk of which was relatively unimprovable. That 55% increase when the size of the farm was increased by nearly 180% when

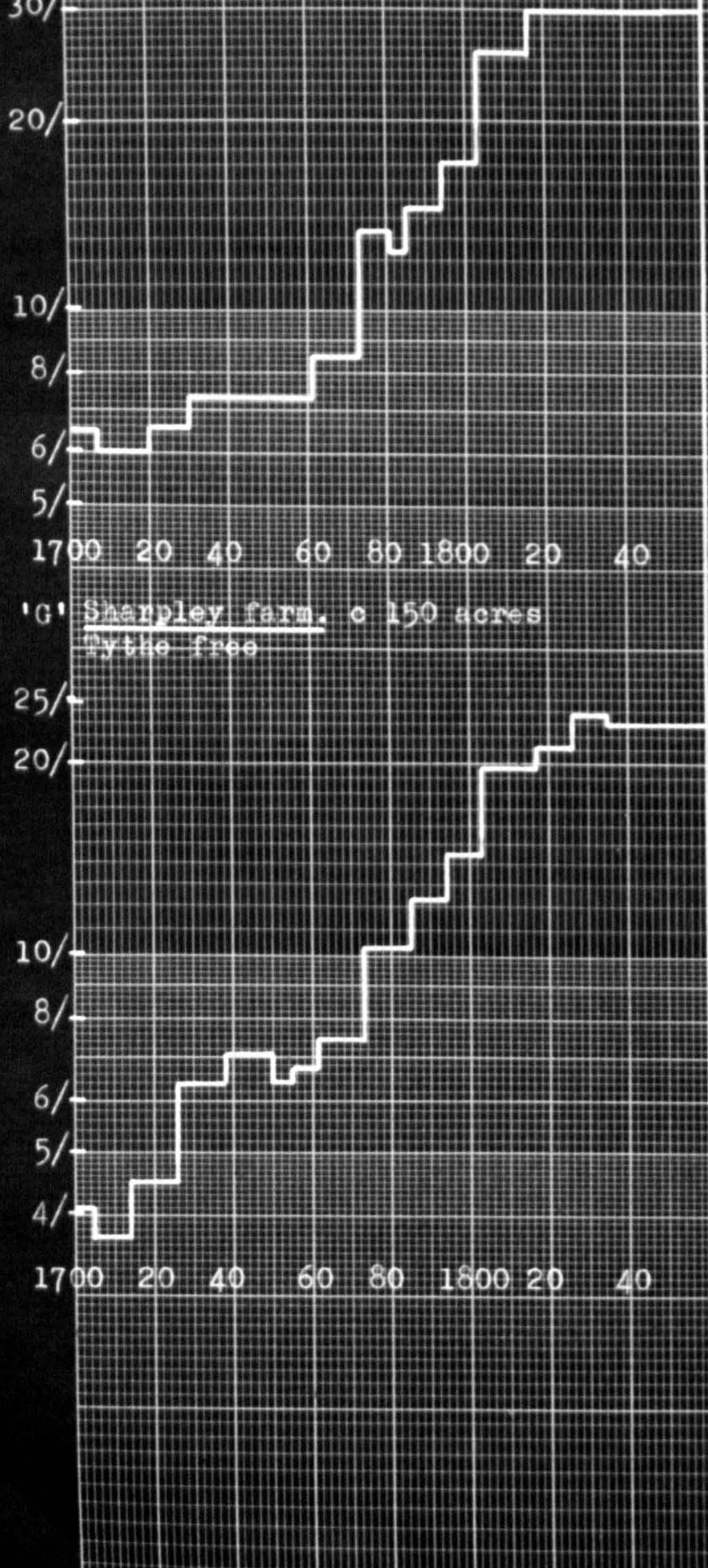
NORTH TYNE DISTRICT.

Allgood Estate. (Nunwick)

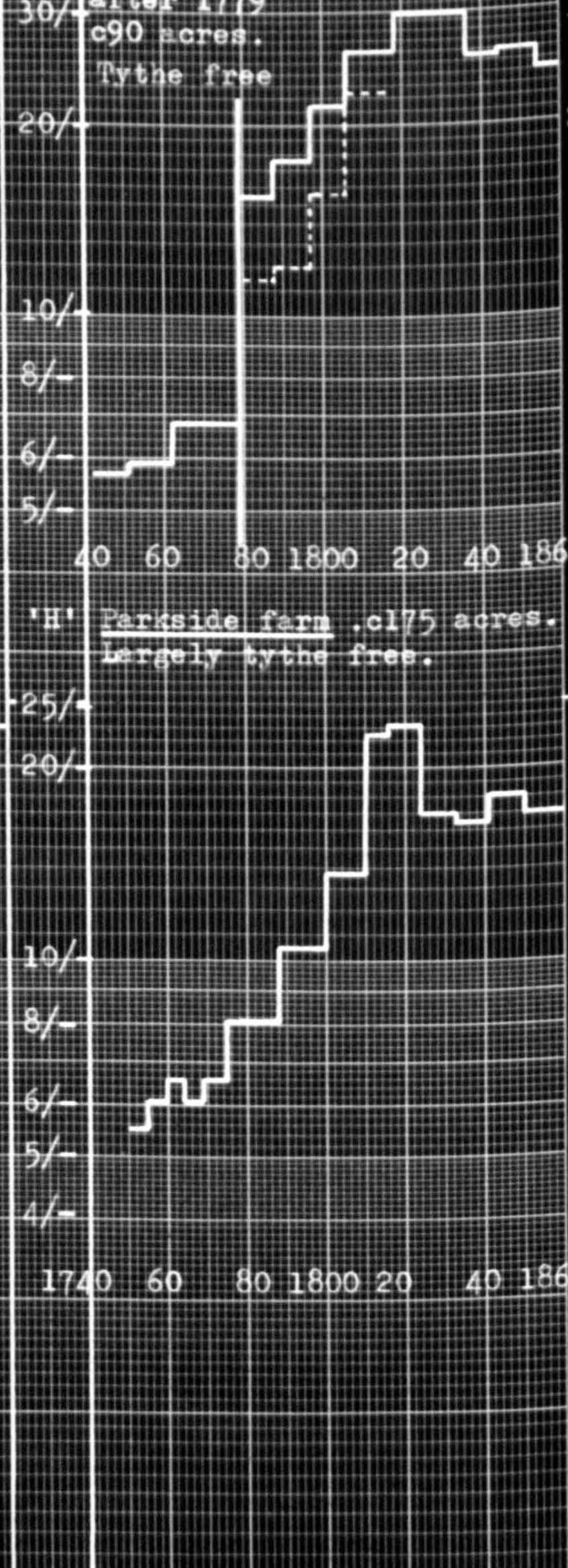
Rents per acre.

Mixed farms near Nunwick.

'E' East Hallbarns to 1803 c.150 acres
Hallbarns after 1803 c 200 acres.
Liable to tythe.



'F' Latterford, Low Morrowlee, and Ramshaw's Mill to 1779 (c 250 acres): Latterford after 1779 c90 acres.
Tythe free



'G' Sharpley farm. c 150 acres
Tythe free

'H' Parkside farm .c175 acres.
Largely tythe free.

compared with the 75% increase at Warkshaugh two years later, without any land being added, is some indication that the immediate effect on rent of enclosure was not as great as might be imagined. In the absence of the sort of information whose need was described in the West Water District any further analysis of these farms is impossible.

For two of the second group of four farms there is no evidence prior to 1740, but for the others the rents are known continuously after 1700. From inventories and sale accounts that have survived for three of them it is clear that in general the type of farming was similar to that being practised further north. Cattle in particular seem to have been important, and sheep are conspicuous by their absence. In 1816 at a sale at Parkside, out of the £246 raised, £120 came from cattle, including one two-year old bull at £10 and five cattle each of which made more than £8, and a further £90 from nine horses. At East Hallbarns in 1784 there were, according to the inventory, 19 cattle, 7 horses, 22 stacks of corn, 4 stacks of hay and about 3 or 4 acres of turnips.

On these farms common division played no significant part in changing their size, since when Simonburn Common was divided, rather than receiving allotments in lieu of their previous grazing rights, the Allgoods created a number of farms de novo, or added all the allotments to existing units that had been surrounded by common. Thus such changes in size as did take place were few and relatively insignificant. Up till 1803 there had been two holdings, East and West Hall Barns, each with similar rents per acre, of which the East farm was by far the larger. In that year, West farm ceased to exist as a separate holding and the East farm (now called simply Hall Barns) increased in size from 150 to 200 acres.

At Latterford in 1779 the reverse process resulted in what had been a composite holding under a single rent for Latterford, Low Morrowlee, and Ramshaw's Mill, in all some 250 acres, being divided under separate leases into its component parts. In the division Latterford itself emerged as a 90 acre farm which contained the bulk of the better quality land. Because of this difference in quality it has been necessary to adjust the per acre rent on which the Index is based. On the basis of the difference existing immediately after separation in place of the combined average rent per acre of 6/9 the index will be based for the period after 1779 on a supplied rent per acre of 9/-.

The only other point of importance to be borne in mind is that because new leases were entered into in 1761 and 1762 in three of these farms I have used the new lease rents as the basis for the indices.

North Tyne District: Mixed farms near Nunwick: Rent Index 1700-1850.

'E' East Hallbarns/Hallbarns farm (200 acres)100 - 8/6 per acre (1761)
'F' Latterford farm (c 90 acres)100 - 9/- per acre (1762)
'G' Sharpley farm (c150 acres)100 - 7/6 per acre (1761)
'H' Parkside farm (c175 acres)100 - 6/8 per acre (1760)

Year	'E'	'F'	'G'	'H'	Year	'E'	'F'	'G'	'H'
1700	76	?	55	?	1780	157	172	138	123
1710	72	?	49	?	1790	170	193	164	159
1720	78	?	60	?	1800	202	239	195	208
1730	86	?	86	?	1810	300	311	266	343
1740	86	83	95	?	1820	354	333	282	350
1750	86	83	95	84	1830	354	333	315	258
1760	100(85)	100(87)	100(91)	100	1840	354	302	309	250
1770	100	100	100	100	1850	354	314	309	274/258

At Sharpley ('G') there can again be seen from these figures the considerable increase in rent that took place between 1710 and 1730, which contrasts with East Hallbarns ('E') where there was only a slight rise between 1700 and 1750. The very marked rise between 1770 and 1790 exhibited by all four farms is reminiscent of the best farms near Corbridge in being

greater than that found among similar land near Matfen. It may well be that this, to a large extent, is due to the much more extensive use of turnips in this area rather earlier than at Matfen. Over the whole of the period the limits suggested by these indices differ significantly from all the categories of the Corbridge Hexham area. Starting in 1760 from a per acre rent approximately the same as the 'Fair Medium Quality' farms (see p.329) the subsequent index figures fall somewhere between those for the best valley farms and the Good Medium Land. Save at Parkside ('H') the post-war decline still left the rent in 1850 over three times what it had been in 1760, but against this it must be noted that the war-time increases were rather less spectacular here than either at Matfen or near Corbridge.

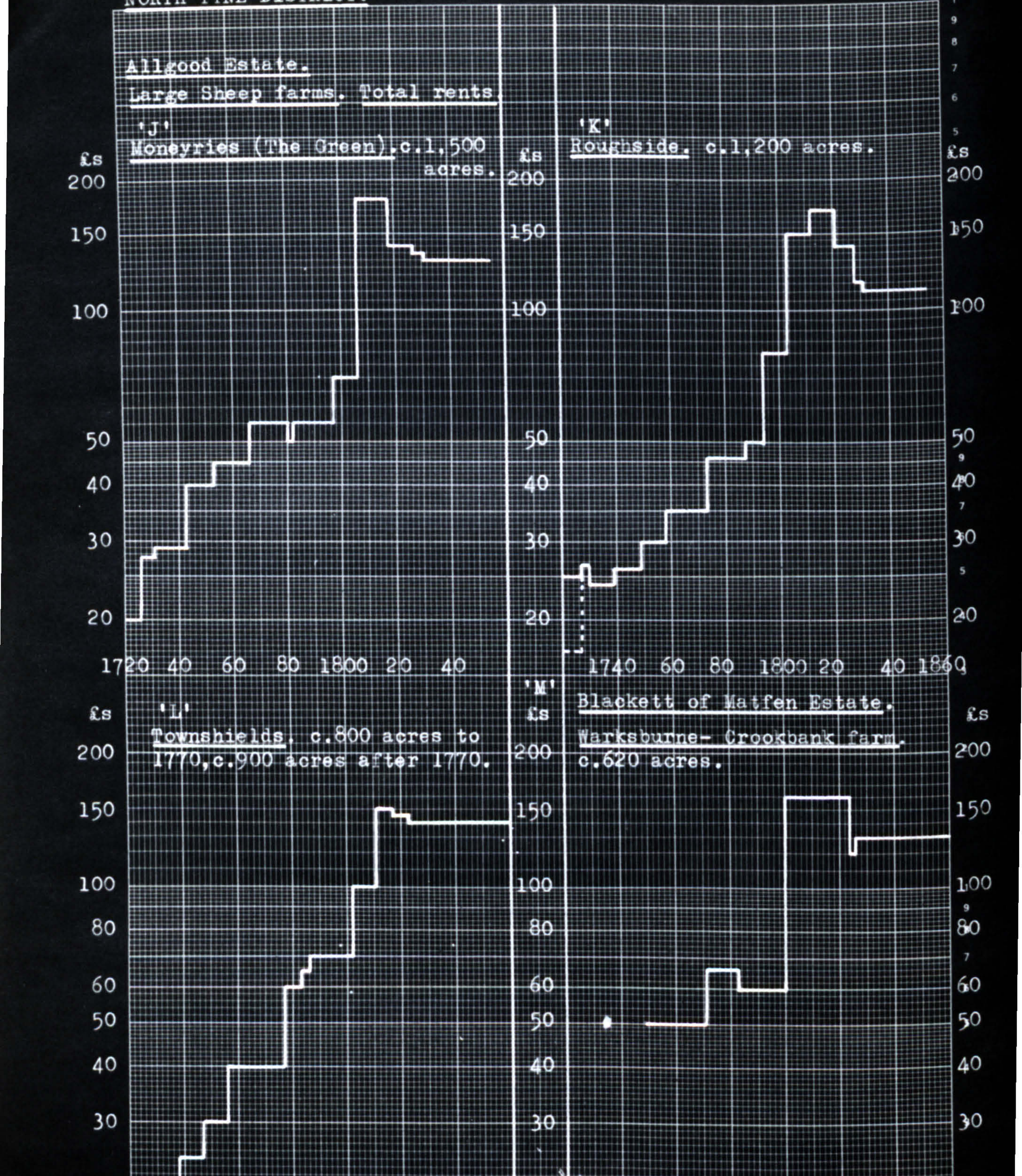
As with the West Water District there is therefore considerable evidence to suggest that the patterns even within wide limits which obtained only a few miles away near Hexham and Corbridge do not provide a satisfactory guide to events here. The similarity in the behaviour of these four farms, confirmed by the other farms on similar land in the district, is such as to make it unlikely that the difference between this district and the Corbridge/Hexham area is accidental. Nor can it be put down to the different owners entirely for fragmentary records, for the Chipchase estate which lay intermingled with the Allgood's show a very close conformity. The very different manner in which the Allgood lands in North Northumberland behaved is further evidence for suggesting that geographical factors rather than ownership were important.

This same point is obvious when we turn to the last four farms whose rents are to be considered, the large sheep farms in the open moorland between the two rivers Tyne. Three of them belonged to the Allgoods and

NORTH TYNE DISTRICT.

Allgood Estate.

Large Sheep farms. Total rents.



ranged in size from 900 acres to 1,500 acres, and the fourth belonging to the Blacketts of Matfen was rather smaller at about 620 acres. Only one - Townshields - was in any way affected by enclosure, and even there it would seem that the allotment did little more than formalize the previous grazing area. All the farms were subject to varying degrees to the rot and in many ways the problem of ill-drainage has remained unsolved, with cotton grass and peat 'haggs' being very common.

The four graphs opposite give the actual rents in £s' for these farms whose condition can be realised from the remarks made in 1769 by George Bates, which, though specifically dealing with Crookbank, could be applied to all four.

> 'It is very unhealthy for sheep, the tenant lost the greatest part of his the last winter and was obliged to sell all the remainder. It is often overflowed by the rivulet called Warksburn which sands the hay and makes it very unhealthy for the cows, and when that close is in pasture it has the same bad effect..... No right of common exists, and no improvement can be made by tillage.'

One of the very few letters among the Allgood papers dealing with estate matters is concerned with the tenant at Townshields and is noteworthy as some indication of the calibre of the families who farmed such places.

> 'Sept.26th 1795 from Jas.Scott, surgeon 4th (?14th) Infantry embarked for Barbados.
>
> I have reason to think my father is at present embarrassed more than ordinary, and as I am now in a condition to assist him, if any arrear take place in future, I make myself responsible for them. ... I beg he may not know I have wrote to you.'

By far the most important family among these tenants were the Ridleys whose ramifications seem to have been endless and the relationship between the various tenants is very obscure. Suffice it to say that in 1850 George Ridley (the brother of Bates's assistant) tenanted Crookbank, John Ridley Roughside, John Ridley Esq. Moneyries, and Thomas Ridley

Townshields. How, if at all, these were related I do not know.

North Tyne District: Sheep farms between the North and South Tyne.

Rent Index 1700-1850

'J'	Moneyries (or The Green)	c.1,500 acres	100 - £45 (c.7d per acre)
'K'	Roughside	c.1,200 acres	100 - £35 (c.6½d per acre)
'L'	Townshields	800 acres till 1770 c.900 acres post 1770	100 - £40 (c.1/- per acre)
'M'	Crookbank	620 acres	100 - £50 (c.1/7 per acre)

Year	'J'	'K'	'L'	'M'	Year	'J'	'K'	'L'	'M'
1700	46	46	?	36	1780	122	132	150	132
1710	49	49	?	28	1790	122	143	175	132
1720	45	?50	?	?	1800	155	229	175	320
1730	61	69	50	?	1810	400	429	250	320
1740	61	74	63	?	1820	311	500	365	320
1750	89	86	75	100	1830	300	332	350	260
1760	100	100	100	100	1840	289	317	350	260
1770	122	100	100	100	1850	289	317	350	260

Here again there is found a distinct pattern which within not too wide limits can be seen to embrace all four farms, and yet is peculiar to them in a number of features. The increase prior to 1760, instead of occurring before 1730, would seem to date from even after 1740. Everywhere, except at Townshields where the addition of common allotments may have been responsible for the greater rise, the increase between 1760 and 1790 was very small. Thereafter, with such modifications as the accident of timing of renewals makes essential, there is a spectacular rise ranging from 115% at Townshields, through 165% at Crookbank, to over 250% on the other two farms by 1815. Much of this last was lost during the post-war period, but even so in 1850 the rent of all four farms was about twice what it had been in 1790.

From this study of the North Tyne district a few important points emerge. By far the greatest of these is that distinct patterns can be discerned dependent on geographical location even within small limits. Locality almost as much as soil or ownership seem to exercise a profound

influence. The effects of common enclosure in the absence of detailed evidence cannot be accurately measured, nor without comparable farms belonging to other owners can that of short leases. By themselves, rentals can at best produce a bald outline of events devoid of the depth which other material could provide. On the land suitable for mixed farming, rents from a comparatively low level in the early 18th century exhibited a very sharp rise between 1770 and 1790, only found elsewhere in company with turnip growing. The post-Napoleonic War decline, though present, does not appear to have been as pronounced as either near Corbridge or along the South Tyne valley. Among the sheep farms another distinct pattern was shown unlike anything seen elsewhere, with one of its most important features being the timing of the pre-1760 increase to the period after 1740. Only on one farm, Warkshaugh, does the pattern conform to one of the 'types' of the Corbridge/Hexham area, and it is by no means impossible that if there were available more evidence this similarity would become nothing more than an illusion covering over important differences by accident.

The rent of every farm may not be quite unique; it can normally be expected to follow a pattern similar in most respects to that of others, but if the whole of this study of Northumbrian rents has shown nothing else it makes it abundantly clear that similarity in rental history depends upon real similarity in such matters as soil and location.

Section V.

Summary of Conclusions

Though according to the title of this thesis my concern is primarily with the landlord and his income from either land or mineral ownership, no apology is needed for the fact that, in analysing, a great deal of information has come to light on more general matters of economic and social history. As already stated in the introduction, agricultural rents were a bargain, and in that bargain the payer is as important as the payee. Similarly with lead, the income derived by such a family as the Blackett/Beaumonts cannot be understood unless the organisation of the industry and the problems of marketing are fully understood.

It may be argued that detail in such quantity so obscures the picture that comprehension of the wider implications is impossible, but in its way the most important conclusion of all from the foregoing study is that only by detailed study, however laborious or tedious, can accuracy be maintained. The individual history of a single farm must be detailed if it can be compared with any other farm. The idea that dating need not be accurate in the study of agricultural history has no sound foundation, generalizations which are not based on detailed examination are worse than useless. Had there been in print a comparable study, then much of the detail might have been omitted, but in its absence it was essential to analyse to such depth as the evidence permitted. In so doing, I hope, a sound even if laborious methodological process has been evolved which will enable further studies to be carried out with a prospect of real comparison between regions being made. What may have appeared as unnecessary labouring of points of detail was not unintentional

but expressly included to help establish the validity of the method of analysis. In one sense, for example, it matters very little whether turnips and clover were introduced into the rotation of a particular farm after 1794, rather than 1788, but it is such evidence that alone enables one of the many factors effecting the size of rent changes to be isolated. To have avoided or omitted such detail would have been to destroy the first purpose of the thesis, which is to establish an exact and, where possible, scientific method of study for the economic history of the North East.

In doing this, admittedly, the particular study of landlords' incomes has become overwhelmed in more general matters. But since that income was derived from the interaction of factors over the whole range of economic life, nothing became wholly irrelevant. It could be argued that the study of agricultural rent income was in itself a separate problem with little in common with the Lead industry, but to have omitted consideration of mineral wealth entirely for such an area as Northumberland would have been unthinkable. Since for the coal industry there already exists in print a number of important studies, and the scope of a detailed analysis on the lines of that provided for the lead industry would be too great, I shall only include a few pieces of evidence which refer exclusively to the level of income (during the early years of the 19th century) of some of the important coal owners.

The danger of including in such a work the mass of detailed evidence is obvious and for this reason it is essential that, even at the risk of repetition, the more important points and conclusions should be brought together in as simple a form as possible. It may be that the mountain has

laboured and only brought forth a mouse, but perhaps only such massive labour could have produced such a mouse. Since it is the quality of the mountain's labour that determines the calibre of the mouse, the method is almost as important as the conclusions.

In presenting the major points of interest that have emerged I shall first deal with the Lead Industry, then Howick farm, and lastly the agriculture of the County in general terms. This will be followed by a brief indication of the important features of the coal trade in so far as they affect the income of the owners, and, lastly, compare the landlords' incomes from all these sources.

The most important single feature of the lead industry was without doubt its susceptibility to wild fluctuations of prosperity and depression. From its organization as well as the geological nature of lead veins this would have been difficult to avoid. For the owner of mineral rights there were three methods of converting such rights into cash. The block grant to a single concessionary, only nominally geared to actual production, was the one employed by the Bishops of Durham and the Rectors of Stanhope in Weardale. The granting of a number of concessions in which the rent was directly proportional to production, as practised by Greenwich Hospital on Alston Moor, could entail direct participation in the processing and marketing side of the industry when the rent was paid in the form of ore. The third method was that of direct exploitation on a large scale from the grove to the staithe which was the one employed by the Blackett/Beaumont family either as owners as in Allendale, or as lessees as in Weardale.

The organization of the mining side in this last case meant that

within limits the quantity produced could be varied according to the prevailing price of the finished product. As that price rose so it became economic to work the less rich veins, which was done by offering a higher price per bing of ore where the labour of producing ore was greatest. Because of this, and the time lag between the raising of the ore and the sale of the processed lead, high prices often caused by a shortage of supply tended to increase production to the point where prices, and consequently production, fell.

Beyond these cyclical movements there took place very great secular changes in the production of the three areas examined. At Alston Moor between the early 1740s and the 1760s the annual average production rose from about 650 tons to 4,200 tons. In Weardale, production rose from under 1,000 tons during the 1730s, to over 6,000 during the 1790s (the bulk of the increase taking place after 1780) and further to over 8,000 tons between 1825 and 1830. In the two Allendale districts ~~as such~~ a similar spectacular increase took place, ~~though not there~~ as a result of which during the 1830s it was over 7,000 tons as against 1,600 tons of a century earlier. Accompanying this secular rise in production and the cyclical fluctuations in production costs there occurred a change in the decennial average cost. At Weardale in the 1730s this was £4.12s. per ton, and by the 1790s it had risen to over £6. During the first decade of the 19th century, when prices for processed lead rose to over £30 per ton, the ore's cost reached £9.14s., from which level it fell till during the 1840s it was ~~down to~~ about £7 per ton. The variations from the Weardale figures that are found in the other areas also enabled one to break down the component elements in production costs. When the condition of the several groves

made unproductive work little more than maintenance,up to 75% of the cost came from actual wages paid to the 'bargain men', and at such times the total cost was usually low. When the task of extracting the ore became harder not only did the bargain work cost increase in money terms but 'dead' (or unproductive) work costs became responsible for even as much as two-thirds of the greatly increased overall cost.

The last point to note on the production side is that apart from borrowing and adapting from the coal mining industry a few techniques for underground haulage by rail and pony, there was no improvement or change of moment in technique during the whole period from 1700 till 1850.

On the processing side there were a number of technical improvements, such as the installation of horizontal chimneys and the introduction of ore-roasting. Details have survived of the costs and workings at the several Mills, which are of considerable interest. The efficiency of the smelting mills seems to have depended on the skill of the smelters and there is no evidence for any improvement in the rate of extraction prior to the introduction of roasting after 1808. The wages paid to the smelters and the salaries of the Mill agents were high throughout as befitted the skill and responsibility required from them. By far the greatest part of the cost of converting ore at the grove mouth into lead pieces at the staith in Newcastle or Blaydon came from transport. Both that of ore from mine to mill and that of lead pieces from mill to ware-house was performed by carriers using ponies with the lead in panniers over their backs. These carriers as independent contractors were a source of continuous trouble, even though many of them were also tenants of the same landlords who employed them. The cost of this transport rose

throughout the period but the rise was most marked during the inflation of the years from 1793 till 1815.

In terms of the cost per ton of producing the ore, the processing costs, inclusive of transport, remained virtually stable at between one-third and one-quarter, until the approach of railways after the 1830s made a significant impact by lowering transport costs.

Since much of the lead from the area contained silver, a decision had to be made on the basis of a sample assay, and the balance of economic forces, as to whether this silver should be extracted. In coming to this decision the probable worth of the silver had to be balanced against the cost of extraction and the inevitable loss by the diminution in the quantity of the lead put through the refining process. By 1810 the Blackett/Beaumont refineries were producing nearly 18,000 ounces of silver per annum and Greenwich Hospital's refinery at Langley Mill a further 5,000. In the peak year (1795) their combined production had exceeded 30,000 ounces.

This silver was sold according to current Hatton Garden prices, and among the Blackett/Beaumont ledgers there has survived the record of these sales from 1729 till 1828. Since they represent a unique series they have been included and give a most informative indication of the movement of bullion prices. In particular, although nominally silver sold at a par 5/2½ per fine ounce, before 1815 it ~~never~~ rarely sold for ~~less than 5/6~~ as little as 5/8. The effect of war is very obvious with prices in 1745, 1758-62, 1779-82, and again during the Revolutionary and Napoleonic wars being very high. These war-time pressures are not, however, the only ones which this price series reveals. In contrast to the stability and lowness of prices during the

peaceful years in general, there is a very pronounced increase between 1765 and the middle of 1772, followed by an equally pronounced decline up to 1774.

The marketing of lead was done through established merchants and agents in Newcastle, the latter acting on behalf of either the big London Houses or foreign concerns. It may not be a coincidence that the founders of the first Newcastle Bank were among the leading lead merchants. The Blackett/Beaumonts by the 1790s were by far the largest single producers in the country and under J.E.Blackett used their position as the only people who could single-handed provide say the Ordnance Department to full advantage. Unlike their silver sales, where the quantity was so insignificant that it could do no other than follow the price established by the overall position of supply, over the lead trade they were in a position to exert very great influence on the price single handed.

Even though they were politically impotent to prevent the lowering of the import duty by Huskisson in 1825, it is interesting to note that even before that date they were in no doubt as to the catastrophic effect on the industry in this country 'should the activity of her (Spain's) people become proportional to the riches of her mines.'

As with silver after 1729 there has survived a continuous series of prices for the lead sold by that family which exhibit a most surprising sensitivity to international as well as internal pressures. These pressures arose from the expectation of changes either for good or bad quite as much as from their reality. Speculation in the trade was intense. When it is remembered how important lead was, particularly in the building industry, paint and porcelain, and that Britain was the principal exporter of lead

during the period, it becomes clear that this series provides an excellent indicator for fluctuations in the national economy. The details of these fluctuations are so many, and the causes for them suggested in the letters so complicated, that one cannot condense their evidence. The last point on the lead trade is that with these price fluctuations went great variations in the actual quantities sold.

In view of this picture of an almost endless series of fluctuations it is obvious that one cannot examine the income derived from lead by any owner whose interest included a close connection with the industry, without taking these factors into account.

In taking the home farm at Howick as a case study, it was admitted that in some respects such a unit cannot be compared with an ordinary tenant farm. Against this it can be argued that climatically induced fluctuations in grain yields must have been general to a wider area, and crucially that in default of evidence for a tenant farm the very fullness of the Howick material made its inclusion worth while. By far the most important fact to emerge from the study of the farm between 1802 and 1834 is that where there is evidence for both yields and prices of corn crops it becomes clear that the use of the national average price of wheat is wholly misleading as an indication of the value per acre of any grain. The price series based on the fortnightly returns of the home farm show conclusively that the national average bears only a rough and far from constant relationship to local prices. The average prices for wheat and oats, even nationally, do not follow an identical pattern and the variations in yield per acre shown at Howick are such that, if they are representative, the whole question of agricultural prosperity and

depression during the early 19th century must be re-examined.

Though this is the most important fact, the evidence from the home farm is very interesting on a wide variety of topics from the effects of introducing improved breeds of sheep, to the profit margin on fattening ~~those~~ cattle. On the expenditure side the evidence from this farm is much more suspect; the labour force may well have been much greater than would have been the case on a tenant holding, but even so on such matters as wage rates and the extensive use of female labour there is no reason to believe that it was unrepresentative.

Since for the vast bulk of landowners in Northumberland, farm rents were their main source of income, it is perhaps inevitable that the major part of the thesis is concerned with rents. Because of this it is somewhat disappointing that many of the conclusions from the analysis are negative, particularly where certainty gives way to suggestion. Where positive conclusions are given they are for the most part tentative and surrounded with provisos.

The first conclusion in importance is that one cannot give a single index for the increase in rents which, without being banal, remains accurate. What happened to the rent of a set of farms on the good land near Tyne at Corbridge differs in too many respects to be comparable with what happened, not only among the Tweedside farms, but even among the farms on slightly inferior land less than ten miles from Corbridge.

The influence of the landlord's policy over length of lease, method of letting and control over his tenants' activities was clearly very great, but it would seem that few landlords could resist the temptation to adopt the method of letting by advertisement and tender. The fact that

three out of the six estates examined did not adopt this method would seem to be unrepresentative of the county as a whole. Where - as on the Crewe Trustees' and Blackett/Beaumont Estates - lettings were at will and increases took place following valuations, there is some evidence which suggests that rent levels remained lower than for those farms let by tender. In the case of the Grey Estates where, though not using advertisements, leases were granted for twenty-one years a position between the two seems to have been reached.

Except on the Crewe Trustees' farms landlord control over cropping was in theory strict and as George Bates wrote 'no worthy tenant could object'; there was, however, a great difference between the theoretical control and its application. On the length of lease's influence the only direct evidence we have is that when tenders were called for, the tenants offering the highest rent, where they were allowed to stipulate the length of lease they desired, without exception asked for not less than twelve years.

Important as the landlords' policy was, there were other factors which together seem to have exerted an overriding influence - location with all its implications, and the possibility, if not actuality, of changes in land use. Within the locality's influence falls not only the particular soil and climatic quality of the farm(s) in question, but also wider geographical considerations sometimes as nebulous as the accepted and prevailing standard of husbandry. It is quite clear that localised differences in the rental patterns outweigh even the landlords' influence and that locality is in such matters a surprisingly restricted concept. In determining the boundaries of a locality the most important factor is

the suitability of the soil for comparable modes of management. During a period when new techniques are being introduced, even this narrowing down of the definition of locality is insufficient. For example, the adoption of turnips is not only determined by the suitability of the soil, but also by the willingness of tenants to experiment, which was often a matter of imitation within an extremely limited area. The introduction of this crop at Matfen came at least ten years after it was being extensively grown, not only on the better quality land near the Tyne at Corbridge, but also on basically less favourable land near Nunwick.

Along the valleys of the Tyne and its tributaries,the several localities within which similar rental patterns occurred are without hard boundaries, but there is nevertheless a distinctiveness about the patterns which soil quality alone cannot account for. On a different scale the comparison of rental patterns between the Corbridge area and North Northumberland showed that micro-regional differences were very considerable. It is not possible to isolate all the causes which produced these differences, but among them were the settlement patterns, the calibre and availability of tenants, the size of farms, nearness of markets and the ill defined but none the less important factor of the area being 'fashionable'.

One of the surprising things that came to light while preparing the material for this study is that despite all these potential factors it was possible to produce rent indices within comparatively small limits which embraced the rent changes on the overwhelming majority of the farms in a locality. Even among the exceptions there were usually found grounds for believing that there was something 'abnormal' in their particular case

which was often removed at a later date. In establishing 'normality' it was vital that as well as the sample being as large as possible, evidence for the various farms should be as full as possible.

Such conditions of a very large sample with ample evidence were fulfilled in the area near Corbridge and Hexham, where farms belonging to the Blacketts of Matfen, Greenwich Hospital and the Blackett/Beaumont family lay intermingled. Although within a small overall area, these farms included a wide range of conditions from the large sheep farms of Hexhamshire to the haughs of the Tyne valley and the plateau land beyond Matfen. From the analysis there emerged three quite distinct patterns which corresponded to the rents per acre in 1760 - the year which was taken as the base 100 for the indices. In every case the rent appears to have doubled between 1700 (or even 1715) and 1760, but thereafter the patterns for the three groups diverged.

On the best land near the river a further doubling was common by 1780, and although there was between then and 1790 a decline, in some cases the leases in operation at the beginning of the Revolutionary Wars showed a rent about four times what it had been in 1715. This considerable increase between 1760 and 1780 would appear to be due in large measure to the introduction of improved techniques. In terms of the rents being paid per acre from between 5/- and 7/- circa 1715 they had risen to between 10/- and 15/- by 1760 and to between 20/- and 30/- by 1790.

For the next group of farms - those whose rent per acre in 1760 had been between 8/- and 12/- - the first difference is that there is in their case some evidence, conspicuously absent from the better land, for a depression during the late 1720s and early 1730s. The crucial differ-

ence, however, took place between 1760 and 1790 when in place of a 100% increase there was only one of between 40% and 50%. On the even less fertile soils letting between 5/- and 10/- in 1760 this smaller increase was more apparent, with no more than 30% rise.

Thus it was established that near Corbridge soil quality as reflected in the absolute rent per acre at a particular date played a vital role in determining the size and timing of such increases as took place during the 18th century. The better the land the greater the increase after 1760. On the best land in that area rents quadrupled during the century, on the slightly less fertile soils they increased threefold, while on the poorer land the rise was only little more than twofold.

What modifications to this conclusion did a comparison with the other areas make clear? In the South West Northumberland Area in the first place rents per acre in 1760 tended to be lower, even for the best land, the further away from Newcastle one went. On the Allgood farms beyond Simonburn the evidence enables one to date the major part of the rather greater increase that took place between 1700 and 1760 to the period between 1715 and 1725. From the more fragmentary evidence for the West Water District it would seem that the same held true there.

Between 1760 and 1790 the evidence is more confused. In Langley Barony, apart from the more marked increase prior to 1760, the farms thereafter seem to conform closely to the patterns of the Corbridge area according to their natural fertility. In the West Water District the picture is somewhat obscured by common enclosures, but it does seem that on land which was letting at between 4/- and 7/- per acre in 1760 a rise took place by 1790 of between 50% and 90%. This increase seems to have

been within those limits irrespective of differences in soil quality. In the North Tyne District there appear two distinct patterns: the one near Shitlington where, except for those farms affected by common enclosure, the increase was even less than 20% on the basis of rents per acre of between 7/6 and 9/- in 1760. The other, near Nunwick, where the basis was identical but the increases ranged between 50% and 80%.

Thus, although the limits of 'normal' increase suggested by the Corbridge analysis comprehend the limits found in South West Northumberland, conformity to one or other of the three 'types' is dependent on such modifications that the criteria for membership of a type used there (the rent per acre in 1760) are unacceptable. Clearly locality as much as soil quality is of the greatest importance.

For North Northumberland the 18th century patterns are in many ways entirely foreign to those found near Corbridge. In most cases the rent per acre in 1760 was very much lower than near the Tyne for comparable land. In some instances where they are similar it can be seen that comparability had been achieved between 1730 and 1760 by very large rent increases which raised the rents of the particular farms concerned above those of their neighbours. The fact that the actual index figures of 1790 still fell within the limits found near Corbridge obscures this basic difference, which was to become much clearer during the following sixty years.

The problem of isolating from the rent increases that took place between 1790 and 1815 (or even later where twenty-one year leases operated) that portion which stemmed from the general inflation from such other factors as the introduction of new methods remains unsolved. In the

Corbridge area there can be no doubt but that the magnitude of the increase was again affected by the soil quality; the higher the rent per acre in 1790 the greater the proportional increase during the war. At the re-letting in 1809, among the valley farms belonging to Greenwich Hospital increases ranging from 150% to over 200% were usual, with the rent per acre exceeding 70/- in some cases. These increases on top of those which had already taken place before 1790 meant that the index limits rose to between 500 and 550; in other words there had been a tenfold increase in the hundred years between 1710 and 1810. Rents that had been between 5/- and 7/- per acre at the beginning of the 18th century were now between 50/- and 70/-.

On the inferior lands the rent increases were usually smaller - between 100% and 150% between 1790 and 1815. This, allied to the absence of the doubling between 1760 and 1790, meant that the index figures only rose to between 320 and 370. In place of the tenfold increase there was only one of seven or at most eightfold: rents per acre of between 4/- and 7/- in 1710 for such land only rose to between 30/- and 40/-.

While on the poor land the war-time increase in many cases was quite as great as this last group and was rarely less than 100%, this, following the negligible rise between 1760 and 1790, still left the index figures much lower, between 250 and 300.

In South West Northumberland the picture is still more confused by common enclosures, which often resulted in farms having their size doubled overnight. It is impossible to assess the impact of such enclosure in a general way by means of index figures. As important as the size of the allotment added to any farm are three factors for which evidence is

scanty. How far did the previous rent include a proportion for the pre-enclosure grazing rights? What relationship existed between the value of the allotment and of such previous rights? How capable of improvement was the ground so allotted? Such questions require answering before any assessment of the effects of this type of enclosure of grazing grounds can be attempted. Where evidence has survived which bears upon these queries it becomes abundantly clear that the variation from farm to farm was so enormous that no generalization can be attempted. For this reason the evidence for rent changes along the South Tyne valley now being given refers to the farms which were not affected by enclosure, and in that is unrepresentative.

On the Greenwich Hospital Estates in Langley Barony the war-time increases and the resulting index figures for 1810/15 vary from 476 to 298 according to the same pattern types as found near Corbridge. Further west, for the two farms which fulfil the conditions of not being affected by enclosure, the figures are 476 and 452. When it is remembered that the base 100 (the rent per acre in 1760) was in their case 5/8 per acre it can be seen that they represent a 'type' pattern distinct from those found near Corbridge.

In the North Tyne the highest war-time index figures are between 300 and 350 except in one case, but here the overall increase between 1790 and 1810/15 is below 100%, where considerable increases had taken place between 1760 and 1790. It would seem that new techniques already widely practised before the advent of the war produced a diminution in the war-time increases, in contrast to the Matfen district, for example, where inflation and new crops and methods occurred simultaneously.

This simultaneous occurrence of inflation and the adoption of changed

methods of husbandry produced its most marked effects in North Northumberland. Despite the presence of quite sizeable increases between 1760 and 1790, during the next twenty-five years increases of 250% and over were common. As a result of this, index figures occur of over 600 on a number of farms. Farms whose rent per acre in 1760 had been between 3/6 and 6/- were being let at between 25/- and 35/- by 1815. In one instance, Burton farm (belonging to Earl Grey) near Bamburgh, in 1811 the rent rose from £700 (13/- per acre) to £2,300 (42/6 per acre), in addition to which the tythe of the same farm rose from under £6 in 1802/3 to £450 in 1812/13, equivalent to a further 8/6 per acre. Here the tenant's outgoings on these two heads alone rose by nearly 300% in a decade.

The post-Napoleonic War depressions in agriculture, lasting with intermissions from 1815 till after 1850, produced a set of conditions which were for the most part beyond the experience of landlords, agents or tenants. With the exception of the acute depression between 1779 and 1783, a man such as George Bates whose experience covered the period from 1760 till his death in 1816 had never been faced with the prospect of general and permanent reduction in rent. Poor harvests and low prices he had known, but during the whole period when he had been agent for the Blacketts of Matfen from 1767 till his death, he had never re-let a farm at a rent below what it had been. Temporary abatements, however generous, were unable to prevent a permanent reduction in lease rents after 1815. Only where the war-time rents had for any reason been grossly uneconomic could such reduction apparently be avoided.

To this there was one major exception - the Tweedside farms. Even

allowing for the fact that having been let for twenty-one years in 1798 they escaped the full force of war-time increases, it is clear that lease rents among these farms could not only increase when re-let in 1819, but be maintained and even increased thereafter.

Elsewhere the size of the reduction in lease rents was, to a large extent, determined by the size of the war-time increases. In so far as high rents during the war appear to have been only a symptom of a more general system of 'high cost' farming, it is noteworthy that their resilience was significantly less than that of the lower rented farms. The timing of these reductions is closely allied to the periods of acute depression, with some short-term increases from such reduced rent being common, particularly circa 1826-29.

Near Corbridge where rents had been at 70/- per acre they fell by 1850 to between 45/- and 50/-; where they had been about 55/- the fall was to about 35/- and where between 30/- and 40/- to between 20/- and 28/-. On the poor land where rents per acre never rose to above 20/- during the war, the post-war decline was such that by 1820 rents were at about the same level that they had been in 1790, between 8/- to 10/-. In terms of percentage decline it appears that it was greatest at the two extremes of very high quality land and the very poor where it was often to below 60% of the war-time maxima. On the intermediate farms it ranged to between 70% and 80% of the same war-time maxima. The overall result of these falls is that on the best farms the index figures in 1850 were between 250 and 350; on the good medium land between 240 and 280; on the fair medium land 170 to 200; and on the poor land between 150 and 180.

In the North Tyne District the comparable index figures for the farms near Nunwick, where the war-time increase was below 100%, fell by 1850 to between 270 and 360, and in most cases there had been a negligible decline since 1815. These same limits cover the farms in both the Langley Barony and West Water on the valley floor. To assess the changes among those farms which were given allotments from the various commons, their rents during the 19th century were expressed as indices, using the rent per acre in 1800 as the base 100. This is not entirely satisfactory since in many cases the rent in that year had been agreed ten or more years earlier without taking into account the subsequent additions to the farm. Nevertheless, it shows that by 1850 the index figures for these farms on that basis varied between nearly 300 and less than 120. In general, this range is an indication of the 'improvability' of the land allotted, but one cannot be more exact since the proportion of old and new enclosures also obviously affected the indices.

In brief, the study of rent changes shows that the pattern of 'normal' change in rents between 1700 and 1850 was extremely variable according to natural soil and climatic quality, and the locality. Beyond these localised variations the only generalization that is possible is that a doubling of the rent payable between 1700 and 1760 appears universal Thereafter the size of the increases as well as their timing was dependent on a number of localized factors. Along the Tyne valley the best land showed the greatest overall increase between 1750 and 1850, achieved by a doubling before 1790, an increase of between 150% and 200% between then and 1815, and a decline to between 50% and 60% of the war-time peak by 1850. In North Northumberland the pattern was very different with an even

more marked war-time increase being followed by a negligible post-war decline.

The significance of this for the landlords' income is obvious. Both the value of an estate of any given size at a particular date and its subsequent changes in value were dependent on its situation and predominant soil quality. The acquisition of, for example, the Tweedside Estate of the Grey family at twenty-five years purchase in 1750 would have provided the purchaser with an income which would have differed during the succeeding century in a number of important respects from that of another who had spent the same sum on an estate near Matfen or Corbridge.

Between 1787 and 1810 William Russell bought in County Durham estates which cost him only a little less than £750,000. The source of his money was one colliery - Wallsend. Among the Hamilton-Russell Mss. at Brancepeth there have survived some of the accounts for this colliery which show that even in the years of its decline after the disaster of 1802, it was still yielding a net profit of between £30,000 and £60,000 p.a. on an expenditure of no more. In 1809 total working costs came to just over £50,000, gross income to £110,000, and Mr.Russell was left with the balance. Nor was he the only beneficiary from this - the most famous colliery of its day - the Dean and Chapter of Durham did not go without their cut. When the colliery first appeared in their accounts in 1778 it was for a fixed annual rent of £200, three years later this item was transferred to the Receiver's Book rather than the Treasurer's and increased to £500.10s. The Treasurer still accounted for the overworkings, that is the royalty rent due for all coal produced above the stipulated maximum allowed under the terms of the fixed rent. After 1795 receipts from this source were

never less than £1,000, and after the deeper (Bensham) seam was won in 1821 it rose to over £3,000. Nor was this even all, since fines were extracted for the renewal of the lease, but I have not been able to trace their amount.

To imagine that Wallsend was the Dean and Chapter's only source of colliery wealth would be quite wrong, but here is not the place to examine their other mineral interests in detail. A general indication can be gained by comparing the receipts under the latin heading of Minera Carbonorum in 1799-1800, when they totalled just over £1,300 in the Receiver's Book, with the total of nearly £6,000 thirty years later. This does not include what may well have been the major part of their royalty income, since the 'contract note', that is the fines received for lease renewals, was entered as a separate item. In 1831-32 the Marquis of Londonderry, as well as a fixed rent and £4,000 paid for overworkings at Rainton, was obliged to pay no less than £44,000 for the renewal of the lease. The reverend prebendaries declared a special dividend!

Each year the accounts of the Dean and Chapter were balanced and the profit divided into fourteen parts, two for the Dean and one each for the twelve Canons. In his North Country Life, Professor Hughes noted that[1] 'No other profession could show an increase (in income) of between three and four hundred per cent between the Revolution and the accession of George III.'

In 1766, the year he chose at random, the Dean's dividend came to £560, which would mean that the single dividend was some £280. (It must be remembered that there was in addition to this corporate wealth specific

(1) E.Hughes. North Country Life, p.325.

property attached to the several stalls.) Between 1770 and 1831 rents in the Receiver's Book increased from some £2,000 p.a. to over £6,000, but the dividend rose from an average of £260 between 1770 and 1774 to over £1,750 p.a. on an average between 1825 and 1829. Between the accession of George III and the reign of George IV this meant an increase of nearly eight-hundred per cent, and again one suspects that few professions could stand comparison. As in the early 18th century, the expanding part of the income was not annual rents but renewal fines. Among the Dean and Chapter these fines, whether for lives inserted or for years, were brought into the accounts under the heading 'Contract Note'. Under the Bishops of Durham they were called more plainly 'Fines for lease renewals'. Some indication of the increase in revenue from these can be gained by looking at this table.

Bishop and Dean and Chapter of Durham: Fines on lease renewals.(1)

Quinquennial averages.

Period	Bishop	D.& C.	Period	Bishop	D.& C.
1771-75	£3,694	£4,782	1811-15	£8,192	£16,704
1791-95	4,344	7,284	1821-25	9,003	19,326
1801-05	5,661	10,541	1825-29	8,992	23,522

The reason for the greater rate of expansion on the Dean and Chapter's side is a simple matter of economic geography. The coal field which was being increasingly exploited during this period included many areas where the Dean and Chapter were royalty owners, whereas for the Bishops, either as with Gateshead and Whickham, the coal mining potential was nearing exhaustion, or as with their properties in the rest of County Durham, although there was coal without railways it was not capable of producing wealth in quantity.

(1) The figures for the Bishopric have been extracted from the Church Commission mss. (618.809) and those for the Dean and Chapter from their Treasurers' and Receivers' Books. Both collections are in the Prior's Kitchen, Durham.

Among the Church Commission manuscripts (ref.221.154) has survived an account of the leases of mines from the Bishop in 1750. Apart from the manors of Whickham and Gateshead none of the other leases, save one, brought in an annual rent of more than £50. Even the renewal fines for many of these small collieries were trifling sums; one of the bigger ones - Evenwood, later to be one of the principal beneficiaries of the Stockton - Darlington railway - could have a life inserted in 1808 for under £400.

This picture of great wealth flowing from collieries into the hands of royalty owners and people like William Russell, should not be thought of as entirely representative of the coal industry. For every man who, like Russell, had made a fortune there were many who failed, and the vast majority of coal owners encountered considerable difficulties. Perhaps the most famous of all these coal owners in the 18th and early 19th century were the 'Grand Allies', the partnership of Bowes (later Earls of Strathmore), Montagu-Wortley (Lords Wharncliffe) and Liddell (Lords Ravensworth). A brief examination of their affairs between 1800 and 1826 provides an excellent corrective to the picture of easy money given by the Russells' success.

> 'I by no means accuse any of the agents of dishonesty, but at the same time I cannot help saying, that they appear to me to have executed the trust reposed in them, with the greatest degree of innattention and neglect'

Thus wrote Sir Henry Liddell to his partners in January 1806. Five years later, despite the efforts of the new agents, conditions were no better.

> 'General Observations'
>
> 'No undertaking ought to be persevered in that is not profitable. The vend (sale of coal) is so considerable and the causes assigned for want of profit so inadequate as to afford reasonable grounds for apprehension that the partnership even under the most favourable

circumstances of trade will never receive anything like an adequate return for the capital they have invested.

The want of profit does not appear to result from smallness of vend nor from freighting nor from the incidental and extraordinary expenses at the different pits; but from the General and ordinary expenditure that seems to attend the whole concern..... the different points here alluded to are the amount of dead rents, the increase in contingent charge, the very great increase in stable charges and waggonways.'

In the five years (1806-10) on one colliery which had cost between c.1798 and 1805 nearly £130,000 to sink a trading loss of a further £46,000 had been incurred despite the fact that its vend had risen by 1810 to 23,400 chaldrons (Newcastle measure c.60,000 tons) and it was selling in London on a par with all save the very best quality such as Wallsend. The main cause of this continuous loss was that here, even when producing that quantity of coal, the cost per chaldron was 30/-, of which only 8/8 was for actual working costs. The next biggest item was headed 'contingent and engine' (8/5) but the most interesting is that waggonway, stable and leading costs came to 9/4.

The name of this colliery was Killingworth, where in 1812 the young engineman was to give the first exhibition of his skill as an engineer, and point the way to the solution of the problem. The engineman was George Stephenson. Not least among the factors which lay behind the development of the locomotive was the high price of oats and hay which in the years between 1800 and 1815 could erode away the profits of coal owners.

It was not until 1814 that Killingworth first showed a profit, but between then and the end of 1826 it made over £120,000 as well as liquidating the £25,000 which the partners had borrowed to sink it. If the years between 1806 and 1816 were lean ones in which losses were

sustained the next ten years saw regular profits reaching in 1821 £24,000. A memorandum written early in 1827 summarises this achievement.

The total dividends paid to the partners 1816-26 had been £146,000

> 'More than this the agent of the Partnership has liquidated the debt contracted by the winning of Killingworth; and also heavy expenses in putting the other collieries on a respectable footing, all of which were in a deplorable condition when Mr.Lambert was appointed to the General Management in 1806.
>
> Notwithstanding this and the uncertainty of mining concerns the Partnership has within the last eight years made two complete new winnings, that is to say at Burraton in 1819 and 1820 at an expense including rent (£7,920) of £16,210/10/1; and at Springwell between 1821 and 1826 of say £37,714/13/5. In all £53,925/3/6. The partnership at this time is in possession of the following collieries in a full and complete working state:- Killingworth and Burraton, South Moor, Derwent Crook, Mount Moor (or Birtley Fell), Springwell and Peareth: with a stock of material at each ammounting in the whole to £139,368.'

As a final indication of the magnitude of the partnership affairs they can be compared with other members of the 'Vend' on the basis of their coastwise vend in 1828.(1) The total vend of the Tyne was 667,485 Newcastle Chaldrons, of which the Partnership's contribution was almost exactly 10% at 66,686. The next two largest vends from that river were Percy Main (34,347 chaldrons) and Wallsend (26,788). Compared with these the vends of the three great Wear owners were on a quite different scale:- Lord Durham 126,484, the Marquis of Londonderry 121,388 and the Hetton Coal Company 93,047. Fifteen years later, when the Midland Mining Commission listed the various collieries, the Grand Allies were among the 'first rank' with an annual production from their five collieries totalling nearly 290,000 tons, as against the 272,000 of the Londonderry's and the 319,000 tons of the Earl Durham's.

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(1) Figures taken from the evidence given by John Buddle before the Committee of the House of Lords in 1829.

Before these coal magnates' incomes can be fully compared with those made either from lead or farm rents, they must be examined in great detail, but even this brief summary is enough to point to some of the main features. Clearly coal was in its way quite as risky an industry as.lead; great good fortune, or the ability to withstand years of heavy trading losses and to raise large capital sums were needed. Only for the church dignitaries were mineral rights easily turned into hard cash, and it is hard not to denounce the rich prebendaries and bishops for their leach-like blood sucking - particularly as the use made of the incomes signally excluded the provision of effective religious facilities among the mining population. Though the Dean and Chapter's income from Wallsend may have been of small dimensions when contrasted with that of their lessee, William Russell, yet the very extent of their royalties ensured for them, even through the precarious process of renewal fines, a very handsome provision.

For the owners of collieries, except for the very few lucky ones such as Russell, the path to great wealth was strewn with difficulties. The existing studies of the Lambton and Londonderry's affairs bear out the evidence from the Grand Allies that the wealth of those directly concerned with the coal industry even though great was hard won. It is the absence of heavy capital investment that marks off the Beaumonts' income from lead from that of the coal owners. The risks of the lead trade were considerable, but were not over-shadowed by having enormous capital tied up in equipment or in opening up new collieries. Such as they were, these risks were largely concerned with the marketing side of the industry, and the only occasions when the Blackett/Beaumonts had large capital sums tied up was when stocks of unsold lead lay either at

the mills or in the warehouse at Blaydon. The fluctuations in the price of lead, as well as in its demand, contrast markedly with the stability in such matters in the coal trade. This is not to say that once the coal arrived at the staiths the coal owner's fears were ended, nor that he could sell as much as he could produce. In fact, in its later years the 'Regulation of the Vend' performed its most important role by sharing the available market among the potential suppliers in such a way that all its members had a guaranteed access to their proportion, irrespective of the profit margin at which they sold their coal. It was the internal pressures built up when such concerns as the Lambtons or Londonderries were in a position to undercut in such quantity and still make a reasonable profit that destroyed the Regulation. To maintain output quotas and prices required an equality among the various producers as well as a market at least approximately the same as the potential production. By the 1840s none of these conditions applied.

No 'regulation' took place in the lead industry precisely because concerns such as the Quaker Lead Co. and the Blackett/Beaumonts were in business on a scale which enabled them to disregard the activities of the smaller men. If then the risks in the lead and coal industry were very different, so were the income patterns. Except for some catastrophe, such as an explosion, it was possible to count on a colliery producing a relatively stable income for a considerable period of time. The fluctuations that did occur from one year to the next were slight as compared with those in the lead industry. No coal owner (except as a result of a catastrophe) had to contend with a fall in income of from £70,000 profit to £24,000 loss between one year and the next as had the Beaumonts in 1815-1816.

From the nature of the income when one turns to changes over the period between 1729 and 1830 for the Blackett/Beaumonts, or from 1735 to 1828 for Greenwich Hospital there is considerable difficulty. In one sense the great increase was little more than the inevitable result of the expansion of production. How far the two concerns were responsible for these increases it is impossible to judge, but it must be assumed that on Alston Moor, for example, had it not been for the Nent Force Level production could not have been maintained at the rate of the 1760s and 1770s for any length of time.

The threefold increase in income between the years 1764-66 and the early 1820s registered by Greenwich Hospital corresponds almost exactly with a threefold increase in production of ore from Alston Moor. Yet in the former years the ore received as rent was sold still as ore, while by 1820 it was being processed at the Hospital's expense at Langley Mill.

There is ample evidence to suggest that great though the increase in income was to the Blackett/Beaumont family, this again was no more than the effect of vastly increased production. In the 1730s their annual average production of ore was 2,500 tons, sales of lead pieces averaged 1,520 tons, the price was £12.18s., and their average net profit after taking into account changes in the value of stocks was £7,500. This meant that on every ton of ore they made a profit of £3, or, expressed another way, on every ton of processed lead sold they made £4.10s. - more than 35% of the selling price.

During the 1820s the position had radically changed. Production then averaged 13,000 tons, finished lead sold at an average of £20.12s., they sold annually some 7,400 tons but their total net profit only came

to £31,000. Per ton of ore raised this meant £2.10s., or on every ton of lead sold £4. 4s.,less than 20% of the selling price.

From this comparison it is clear that profit margins were reduced, but it must be remembered that during the first decade of the 19th century very handsome profits had been made. If one takes the years 1801-05 the annual average sales of 5,000 tons at over £29 per ton left net profits of £60,000; £12 per ton or over 40% on selling price.

Considerable as the income of these lead magnates was, it is not beyond comparison with that which theoretically was obtainable from land, even in the magnitude of its increases. If one takes the £60,000 profit made by the Beaumonts in the early 19th century, this could have been produced from an estate of 30,000 acres if it consisted entirely of the best quality land letting at 60/- (allowing one-third of gross rents for expenditure). Such an hypothetical estate in the 1730s, on the evidence of such land near Corbridge, would have yielded in the 1730s at 10/- per acre, which would be high, a net income of some £10,000, which is not much greater than that which the Blacketts were then receiving for their lead.

From such hypothetical matters one can turn to the actual figures. From £6,980 per annum in the 1740s the gross rental for all the Greenwich estates had risen, without the addition of any purchased land, to over £40,000 after 1812. The Matfen rental between 1756 and 1816 showed a smaller increase from £2,000 to £7,000, but on the West Water Estate where there had been some important Common Divisions it was from approximately £800 to over £4,000. The Grey estates on Tweedside, which in 1750 had a combined rental of only £580, were in 1820 let for nearly £7,000. Between

the same dates the Allgood estates near Simonburn rose from £1,450 to £5,000.

Clearly, even in the least favoured areas, agricultural rents during the period from 1720 to 1820 show a very great increase. We have already dealt with the localization of such increases as to timing and size, but everywhere very considerable increases did take place, even before the outbreak of the Revolutionary Wars and the subsequent inflation. The significance of this fact, if it holds true for other parts of the country than Northumberland, is considerable. These landowners were not famous agriculturalists like Coke of Holkham, but ordinary landed gentry albeit on a large scale. Their agents were not possessed of skill beyond the ordinary, nor were their tenants necessarily more progressive than tenants elsewhere, save in so far as the greater size of the holdings may have attracted bigger-minded men. Nevertheless, between 1700 and 1790 a quadrupling of rents was common. Price changes of a general nature cannot account for that. What became of the additional income? Doubtless a part went on building stately homes, doubtless some was frittered away in riotous living, certainly some went to creditors in the case of the Greys and the Allgoods. But what of the rest? The 'take-off' into self-sustained growth which took place in this country, according to Professor Rostow, took place between 1783 and 1802,[1] demands the existence of certain preconditions, among which he mentions that 'agriculture must yield up a substantial part of its surplus income to the modern sector'.

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(1) W.W.Rostow. Stages of Economic Growth. Cambridge Paperback Edit. p.38.

If the rent increases found to have occurred in Northumberland can be shown to have been generalized then they suggest one means by which the capital which was so clearly needed for industrialization was provided. The increased rents provided the gentry with surplus income which, if sufficiently attractive opportunities arose, could be invested. The Grand Allies to sink Killingworth not only 'borrowed' from their own agricultural rents but also from the Tyne Bank. It was in this bank that the Blacketts of Matfen, the Allgoods and Greenwich Hospital deposited their farm rents, and, in the case of the private families, left them.